

*Nathaniel Chapman Jr*

PRACTICAL OBSERVATIONS

ON THE

SMALL POX,

~~THE~~ THE

APOPLEXY, DROPSY,

AND

NERVOUS CHOLIC.

By S. A. D. TISSOT, M. D.

F. R. S. at LONDON, and of the PHYSICO-MEDICAL  
ACADEMY at BASLE:

IN

A SERIES OF LETTERS

To the Most Noble and Illustrious

ALBERT HALLER.

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PHYSICAL OBSERVATIONS

ON THE

3 MILE BOX

ALTOGETHER, DROPSY

NEW YORK, CHOLERA

AND THE DISEASES

OF THE LUNGS

AND THE BRONCHIAE

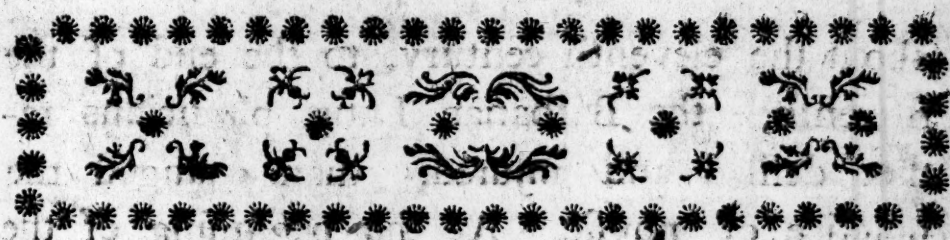
AND THE LIVER

AND THE SPLEEN

AND THE PANCREAS

AND THE TESTES

AND THE UTERUS



# PRACTICAL OBSERVATIONS

ON THE

## S M A L L P O X.

**T**HE Arabians first took notice of the Small Pox, and delivered to posterity the true method of curing this disorder. In their opinion the disease was of an hot nature, and they laid down such a method of cure as prevented too great a degree of inflammation ; namely, plentiful bleeding, refrigerants, acids, clysters, a low and spare diet ; and at the same time relaxed the pores of the skin by emollient vapors, in order to procure a ready outlet for the poison. They raised the strength of their patients, when too much enfeebled, by the use of opium, and in case of a violent looseness prescribed astringents.

From the time of Albucasis (the last, almost, of the Arabian physicians) who lived

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about

about the eleventh century, to the end of the fifteenth, the Barbarian Latin physicians rather defiled and injured, than changed the practice of physic. At the beginning of the sixteenth century, Paracelsus, a contemner of the Antients, and immoderately fond of chemical remedies and opium, founded the sect which, in eruptive disorders in particular, thinking to expel the poison through the pores of the skin, had an aversion to bleeding, refrigerants, clysters, and all evacuations, except sweating. This method got so much in vogue, especially in the Small Pox, that few physicians, from the time of Paracelsus, were entirely free from this fault; but for two ages, the hottest diaphoretics, cordials, bezoartics, and narcotics depopulated the earth, by adding greater virulence to the variolous matter; but it is the interest of physicians to keep eternal silence on this head, lest medicine, that salutary art, should become hateful to mankind.

Sydenham first loudly exclaimed against this horrid practice, and restored the antiphlogistic method.

Boerhaave following his steps, in his lectures recommended the cooling method to his pupils, which, promulgated by them, is  
now

now generally practised, and of service to many continually; nothing remains but to administer it to all, and to show what doubts remain with respect to its utility.

Opium, which the Arabians used so cautiously, is the principal medicine in Sydenham's method, the sacred anchor on which he relies in the most desperate cases, and with which he hopes to appease the most vehement commotions during suppuration. He takes not the least notice of the acid spirits, except in the malignant species of this disorder. The moderns seem to think in the same manner. An extensive variolous practice, and an attentive consideration of the nature of the distemper, have taught me to think somewhat differently.

I was myself attacked with a favourable kind of Small Pox in the month of August 1743, being then about fifteen years of age, and having just began my studies in order to qualify myself for the practice of physic. An old and venerable physician prescribed for me an useful diet, that consisted of tea and milk, apples and prunes; but at night ordered me a dose of Venice treacle. I had so bad a night, after this medicine, that I absolutely refused to repeat it a second time, and hence

learnt, beyond a possibility of forgetting, that hot medicines and opiates were prejudicial in the Small Pox.

Three years afterwards this disease being very rife at                    where I then resided, I had great opportunities of making observations on it; but young students are incapable of making observations themselves. I read, however, a small treatise wrote by La Mettrie, and what Sydenham says concerning this distemper. About the same time, a little book of Dr. Thomson's on opium, by accident fell into my hands, which teaching me that opium was a *very hot remedy*; and having learnt elsewhere that *Tberiac* possesses its principal virtue from the opium in its composition, convinced me that opium must be an hurtful medicine in the Small-Pox.

However, the great success related of their practice by Sydenham and La Mettrie, my guides, was matter of wonder to me: my mind was full of doubts; and I might have truly said,

*Non nostrum est inter vos tantas componere lites.*

The event increased my dread of opium. Most physicians, surgeons, apothecaries, and even mothers, administered plentifully syrup of diacodion and liquid laudanum.

But

But opiates were seldom or never administered in the hospital founded for the reception of foundlings. Whilst this cruel distemper made prodigious havock in the city, very few died in the Foundling Hospital : and the physician to the hospital published a small pamphlet, in which he proved, by observations, opium prejudicial in this disease ; but took not the least notice of the essence of the disease or remedy.

During some years, I had frequent opportunities of examining variolous patients ; and I seldom observed diacodion of service in the distemper when severe. Returning home in the year 1749, I attentively considered my former observations, and made a vast number of new ones, the Small Pox happening the year following to be epidemic ; and having carefully consulted the best authors on the Small Pox, and from my own practice, which excels all precepts of masters, weighed attentively the effects of opium on myself and patients, that it always renders the patient thirsty, uneasy, and disorders the heart, in one instance occasioned a dysentery ; I was convinced that opiates were improper in severe inflammatory variolous cases, and the more prejudicial in proportion to the severity of the

distemper, degree of fever, and nearness of the turn of the pustules.

I, with pleasure, saw my own observations soon after confirmed by the authority of Dr. Thomas Sympson, whose treatise on Sydenham's method entirely coincided with my opinion concerning opium.

At length, in 1758, I learnt that Dr. Young was also of my way of thinking. And the reading of the first part of Tralles's excellent dissertation on opium the same year gave me hopes of his being of the same opinion, which the second part of his work, that I received some time after, confirmed. I was extremely glad to see my old opinion learnedly expounded by that venerable personage; nor can words express the pleasure I felt, to find his observations as like my own as one egg is like another.

But, except Sympson, now dead, as I am informed, and who, many circumstances induce me to think, gave the first hints to Tralles, Young the Elder, now living, and Tralles, I know no other physicians afraid of prescribing opiates in the Small Pox. It will not therefore be useless, if I bring a fresh testimony against their use. Permit me, then,

then, first, to explain briefly my opinion of the Small Pox.

It has been long universally agreed that the Small Pox is not a disease that arises from various errors in diet, nor have a few observations to the contrary the least weight with any one. This distemper then proceeds from a *virus sui generis*, with which the air is often infected, and being received into the human fluids, imperceptibly contaminates them. Health is impaired for some days, until nature, irritated by the acrimonious stimulus, excites a fever, generally an inflammatory one, but that varies according to the different constitution and regimen of the patient, and state of the atmosphere; and is at length appeased when the *virus*, received into and generated in the constitution, is thrown on the skin, defiling it with phlegmonous pustules, at first very small, but which by degrees grow as large as peas, and at length suppurate. If the whole of the *virus* is deposited on the skin, and the pustules are not very numerous after the eruption is completed, the distemper is terminated; the pustules passing through their different stages without occasioning any disturbance, at length dry

away. This is the mildest species of the disease.

But if the *virus* should abound so much as to cause a plentiful crop of pustules, from the irritation of the skin, absorption of the purulent matter, and diminished perspiration; a new fever soon arises, very dangerous in its consequences, called the *secondary fever*.

The third case is, when the skin, not being able to receive the whole *virus*, or the strength insufficient to expel it, the fever does not cease, but continually increases, and fresh pustules appear every day.

The method of cure, in diseases that arise from a *virus* is twofold; the *virus* is either subdued by its known antidote, or the body so fortified as to render the symptoms extremely mild and favourable. Many celebrated professors have attempted the first method in the Small Pox, but hitherto in vain. Nor, perhaps, is this so much to be bewailed; for since our bodies are so constituted as to be liable to receive the infection until they have once undergone the distemper, the extinction of the infection received would not prevent a fresh infection; and we should be liable all our lives to receive the infection, and be continually obliged to subdue it by its  
antidote

antidote. The second method of cure, therefore, only remains, and we should use our utmost endeavours to mitigate a disease which almost every one must undergo. It is true, indeed, that the distemper would far more easily be subdued by a known antidote.

The phlogistic nature of the disease being known, points out the best method of cure, the utility of which is confirmed by practice, viz. a cooling and laxative regimen.

But the inflammatory and true appearance of the disease is sometimes changed by the adventitious qualities of the air, and various morbid *semina* in the constitution of the patient. From this double fountain flow those species of the Small Pox described by writers, and in which the cooling regimen is absolutely improper. For as all other morbid causes act variously according to the different condition of their receptacle; so also does the variolous *virus*. *The Small Pox follows the constitution of the body, though the state of the air also contributes to its greater or less degree of virulence.*

I shall next examine the propriety of administering opiates in the Small-Pox.

1st, Opium is one of the hottest sudorifics, and indeed, the hottest of them all. Yet  
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the warmest patrons of opium forbid the use of these remedies. Whilst they forbid the milder medicines of this kind, why do they allow of the most powerful?

2dly, The humours are acrimonious, highly so, frequently corrosive. What service can opium be of, a most acrid corrosive remedy? Perhaps an opposite acrimony corrects the morbid acrimony: No; for

3dly, All the humours grow putrescent in the Small Pox; and the celebrated Alston acquaints us, that the opium rather inclines to alcalescency than acidity. Besides experiments demonstrate that ligatures of the nerves excite a quick and dreadful putridity, nay, a mortification is the parts to which they are ramed; but opium, like a ligature, obstructs the functions of the nerves; it is to be feared, therefore, lest the putridity should be increased by opium, both as it is opium, and as it promotes sleep, during which the secreted humours grow putrid from want of motion.

4thly, From the use of opium, both internal and external, in inflammatory disorders, who has not seen, read, or heard of gangrenes arising? A man now lives in this very city, who lost the toes of one foot from  
a mor-

a mortification, in consequence of applying liquid laudanum with a view to take away an inflammatory pain. But in violent inflammatory variolous cases there is always reason to fear a mortification ; can opium then be safely prescribed where all is in a flame, while the whole body is, as it were, one continued phlegmon ?

5thly, All the vessels are turgid from the quantity and rarefaction of the humours : for this rarefaction is in vain denied by those who apply too strictly to the human body the physical rules of other bodies. The best physicians affect only those remedies which restrain rarefaction, and empty the vessels by promoting all the excretory discharges. Opium obstructs them all except sweating, which it is unable to procure, and increases the rarefaction of the humours so greatly, as Borelli has observed about the year 1660, as to excite a fatal hemorrhage ; it is therefore contrary to the disease. And in general sleep is prejudicial when bleeding is of service ; nor do the very common people wrongly judge it hurtful after phlebotomy ; for its virtues are directly opposite ; and it happens that we see every day patients who bewail,  
after

after sleep, the loss of the relief they received from bleeding.

We all trust, nor undeservedly, to a plentiful salivation: opium has been demonstrated to restrain this discharge; therefore it cannot be an harmless remedy. I have known some deny this effect, but wrongly; and Sydenham himself, though so fond of opium, has confessed that, during sleep, indeed, the salivation is lessened, but upon awaking the spitting returns in greater plenty. But if the quantity is not lessened thereby, why does he so often have recourse to oxymel of squills, which powerfully excites the salivary discharge by exciting nausea? others have confessed that, in fact, the salivary discharge is lessened; but with how many virtues is this fault, counterbalanced! The bad effects I have frequently seen, the advantages never. The salivation is certainly and prejudicially checked by the use of opiates.

6thly, I can scarcely conceive how artificial sleep should be of service, when even natural sleep is prejudicial; for I have endeavoured more than once to prevent it by art, when I have observed a snorting succeed, anxiety, intermitting pulse, turgidness of the face,

face, and cessation of the secretions, and I have been afraid lest, from sleeping, the patient should become lethargic ;

*Sed revocare gradum, superasque evadere ad auras,*

*Hoc opus, hic labor est.*

*Pauci potuere.*

When in the most mild and benign kinds of the Small Pox, in children, I have quieted, with syrup of diacodion, those pains which occasion them to cry, and be uneasy, not apprehending any danger in so slight a disorder, I have more than once or twice seen the blood drove up to the head, the eyes swelled, and the eye-lids turgid.

Nor is it a wonder that sleep does harm in the Small Pox, since attentive observation teaches, that persons in a fever receive more hurt than benefit from sleep. For what Physician has not observed patients labouring under feverish disorders worse after sleep than before ? Truly every day we observe those afflicted with sore throats swallow with greater difficulty ; those with the head-ach complain of more violent pain ; the short-breathed and asthmatic breathe more difficultly ; rheumatic patients feel more acute pains upon waking, and carefully avoid sleep

so

so anxious and frequently spasmodic; the plethoric are weaker after sleep from the greater compression of the nerves. Now were those physicians among the Ancients ignorant of these observations, who judged sleep prejudicial in fevers, *lest the heat should be repelled inwardly, which, from the fever, tends to the external surface of the body*; and hence perhaps, the aphorism of HIPPOCRATES, which forms a judgment of the danger of acute diseases (as it should seem) from the effects of sleep. A slight disease is increased but little, a severe one very much by sleep.

I see sleep do harm every day while a fever is rising to its height; you have seen many more instances of this, as you have benevolently informed me; the celebrated Dr. Young has also observed it frequently, who knew also, and it may be clearly seen by every one, that the vessels are turgid during sleep; a necessary consequence of the secretions being lessened; and he adds, that from sleep arise all the phenomena of a plethora, nay, of obstruction; from hence is easily understood, how hurtful it may be in diseases; and I venture to affirm, as a true axiom in practice, that sleep, which cools the healthy, renders feverish persons more hot.

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This proposition seems paradoxical at first sight; but whoever attentively weighs the causes of healthful and distempered sleep, and the effects of sleep, will readily conceive the truth of it. Sleep proceeds either from a defect of the animal spirits, or a compression of the nerves; and, in healthy persons, generally from both causes. The spirits are exhausted by daily labour; and in the evening that slight degree of fever is raised, which scarcely any one escapes. This, of an evening is the condition of an healthy person; the spirits are exhausted, the thinner parts of the fluid are dissipated by motion; the crude humours from the aliments, as yet uncocted, act as a stimulus; the head most frequently is more turgid with humours than the other parts of the body; the blood begins to thicken phlogistically, for from continual waking the worst inflammatory fevers arise. The remedy is brought on by the disease itself, and the machine is rendered unfit for farther motion, which motion would prove injurious; the body is necessarily composed to rest: by rest the damages are repaired that the body has sustained by exercise, &c.

For the extraneous powers, as well physical as moral, which assist the force of the heart,

heart, cease, and the circulation moves on but slowly. Hence the pulse more weak, the breathing less frequent, which, in most cases, is in proportion to the motion of the heart. The motion of the blood to the different excretories of the body is slower, thence a less quantity of the secreted humours, and, indeed, of cutaneous perspiration, though the moisture of the skin that proceeds from the small quantity of matter that is perspired, not flying off, would persuade us to think otherwise. The blood, therefore, loses little or nothing, from the lesser degree of motion the fluids are less thickened, the heat is less, the alkalescency is less, the crude is concocted, and assimilated; the concocted is applied as required: thence a moistening reparation and nutrition of the solids. The spirits are refreshed, the strength restored, in the morning the person rises well, who in the evening was sick; for the person who wants to sleep is ill. The causes of the disorder being removed by sleep, health returns.

But in a fever, the face of things is vastly different. Sleep does not remove the causes of the sickness, therefore lessens not the disorder in the least; it is an hindrance to the cure, therefore increases the disorder. Careless

less observers have run into an error, having observed the circulation more slow by nocturnal sleep in healthy persons, and persons asleep rendered more cool; hence they have concluded that sleep always, and in all cases must regenerate; not considering that coolness arises from the cessation of the causes of motion and heat. Having observed sleep to follow the administration of opium they thence asserted sleep cools, as opium composes to sleep; therefore the ultimate effect of opium, is to refrigerate; therefore opium must be of service in the Small Pox, where an exquisite refrigeration is desired. But the proposition is false, of course the conclusion must be false. Sleep once more, then, only lessens the frequency and heat of the circulation, when the causes of motion are removed at the time of sleep. In health a slight fever arises every day from the diurnal labour, which nature wills should be cured by that placid rest which is called sleep; then sleep is the only febrifuge remedy. But in every other fever it is destitute of this property. The assistance of the heart is different in the healthy and the diseased; those of the first kind cease during sleep, but not those of

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the second kind; therefore the effects are unlike.

A man who labours under a bilious fever, that is to be cured by intestinal evacuations and urine, and plentiful dilution with acid liquors, sleeps six hours uneasily, will the fever be less when he awakes? No: from the diminished and slower peristaltic motion arises a congestion, stagnation, and greater putridity of the putrescent intestinal contents; the urine is in smaller quantity, and the perspiration lessened; which last I should imagine of the utmost consequence; the acrimony, therefore, is retained in the blood, and stimulates more; the heart beats more frequently; the fever becomes more acute. Besides, from the air remaining unchanged, the heat is greater; from want of drink no check is given to the putridity: therefore sleep does harm many ways. The same way of arguing holds good in the Small Pox, it can take nothing from the causes of the disease, it no ways lessens the disease, on the contrary it increases them and prolongs the cure; it therefore adds force to the distemper.

But sleep is necessary to the reparation of the strength, the reparation of the strength is necessary, therefore----The major is false,  
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the minor doubtful, the conclusion false. As sleep cools the healthy by preventing the causes of heat, so it repairs the strength by repelling the causes by which it was impaired; but in a fever it is impaired by the disease which sleep does not lessen, and the instruments of reparation are wanting; it therefore adds nothing to the strength, as daily observation proves. In diseases, those remedies, truly, alone strengthen, which conquer the disease; the more the disease is depressed, the more the patient is strengthened; and in a fever, attended with putridity, a few ounces of lemon juice would be of more service for this purpose than a week's sleep.

However, do not imagine that I mean to reject all sleep, nay all opiates, in acute diseases; no, far from it. I only mean, that frequently sleep, more frequently narcotics, are prejudicial to feverish patients by increasing the disease, and weakening the strength of the remedies. It frequently happens, and has happened to me very lately, that we observe persons in fevers, who, wrongly advised, have taken an opiate in the evening, after having passed a bad night, much worse in the morning; on the contrary I have known excellent effects from opium, when admini-

stered in distempers, the plethora being first taken off, the phlogosis diluted, and the vessels relaxed; for then acting as a diaphoretic, it works wonders; but prudently by a prudent physician! The illustrious Hænius has done great things here.

I have seen patients, in the confluent Small Pox remain awake seven days and nights together without being the worse for it afterwards; others who were frequently inclined to sleep, I have more frequently directed to be roused, upon finding them, on their awaking, more uneasy than before, from the retention of the salivation; which flowing continually, like a rivulet, cannot be stopped a minute without occasioning a greater swelling of the fauces; I have seen the quantity amount to seven pints in the space of a night and a day: I have known a spitting, very troublesome to the patient, remain above thirty days after the declension of the disease, which yet I have not chose to check, for it is an useful crisis, and ceases, of its own accord, as the blood acquires a new diathesis, and the solids are strengthened, especially by exercise. I remember a girl who died of a consumption, the beginning of whose disorder was

was a cough, which proceeded from stopping a flux of the saliva by a restringent gargle.

Nor are other reasons wanting against the use of opium in the secondary variolous fever ; for,

7thly, The physician ought to select those remedies which not only favour the crises by which the disease ought to be cured (but we see that opium is opposite to all these) but also remove the symptoms which, supervening, occasion death. In the present case opium not only wants this power, but is apt to bring on all these symptoms. Variolous patients die lethargic, or from a difficulty of breathing proceeding from humours congested in the lungs ; who can find out a medicine capable of bringing on with more certainty both kinds of death ?

There is continually reason to fear a phrensy, quinsy, pleurisy, peripneumony, inflammation of the liver, ischury, and mortification of the bowels ; and in vain could a remedy be sought which would sooner hurry on all these symptoms

8thly, They are uneasy, often delirious, are hot and thirsty ; from the use of opium

proceed uneasiness, deliriums, heat, and thirst.

9thly, Opium is like wine: Who in the height of suppuration would drink large draughts of wine?

10thly, The itching is sometimes intolerable: Who is ignorant that opium increases itching?

11thly, I observe the best physicians either forbid opium in acute fevers altogether, or only administer it cautiously; I cannot conceive why they administer it so boldly in the secondary variolous fever, perhaps the most acute of all fevers, unless they believe it endowed with a specific antivariolous power, which I have never hitherto heard that any one has imagined. The variolous fever affords the same indications as the most severe putrid fever: Riverius formerly pursued the same method of cure: how should the same remedy act altogether differently in disorders entirely similar?

Lastly, Consider all the powers of opium, and you will find none, except its sudorific and lenient power, which are not opposite to the true indications of cure; but is it of service in this double respect? No: 1st, Both  
ancient

ancient and modern physic never attempt sweating while the fever rages. 2dly, That sweats may flow kindly, it is necessary both that the humours should be determined to the skin, and that the skin should be in such a state as not to obstruct the evacuation; but such is the state of the skin in the Small Pox, that they cannot come on; therefore the humours are prejudicially determined to the skin; hence no evacuation, but a greater tension and inflammation of the skin; great irritation and increase of fever. Nor is this impossibility unknown to those celebrated persons who administer opium; for they endeavour at the same time to carry off the humours by urine and stool, which excretions they otherwise take care to shut up when desirous of procuring sweats, herein faithful imitators of nature, which we see attempt in acute disorders the cutaneous secretion, if the patient is costive and the urinary discharge small.

Will it ease the pain? Truly it augments the causes of pain, namely the infarction of the vessels, and inflammation of the skin. It remains, that it may divert the mind from pain, by obtunding the common sensorium. But this stupor proceeds from the increased

compression of the brain ; but how great the danger of that ease from pain which we cannot obtain without increasing the cause of that pain, and all the worst symptoms of the disease !

Therefore opium is an hurtful medicine in the secondary variolous fever, as an acute inflammatory putrid fever, and increases all the symptoms which the fever excites.

I speak from experience, I speak what I know to be true for nine years (for during two years I was not fully determined about opium) but had doubts with respect to the propriety of administering it, I have never prescribed opiates in the dangerous secondary fever, and yet I have seen many and very terrible cases, where I acted as physician alone and entirely as I pleased ; and solemnly declare I have never lost a patient. Very frequently, when called to patients who, through bad advice, had taken large doses of syrup of diacodion, and had not hindered its bad effects by a sufficient refrigerative regimen, I have seen the worst effects from it, of which, with the blessing of God, I have sometimes been able to get the better, by the use of purgatives and acids ; sometimes all medicine was in vain. In the spring of the year 1754 I was sent for  
into

into the country to a noble patient, who on the seventh day of the disorder had taken narcotics by the advice of two other physicians; I found him labouring under a quinsy, which having arose and within a few hours, prevented all deglutition, even the passage of liquors, I in vain, advised bleeding. However I obtained leave to omit the opiate for twenty-four hours, and after several clysters the patient was able to swallow. On the ninth day recourse was had again to narcotics; the fauces were obstructed after the second dose. On the tenth day he grew delirious, there was no passage for any remedy; in vain I intreated for venesection. By the use of clysters, and abstaining from narcotics, after some hours the patient could swallow liquids; but diacodion was mixed with his drink; a vast anxiety came on, the delirium increased, and the pharynx was, again obstructed. On the twelfth day he became lethargic. By the advice of five physicians the veins of the feet and arms were opened, but too late; blisters were applied, which, his physician in ordinary and myself had in vain begged for, and he was wrapped in a sheep skin just flead off (a foolish, vulgar, and hurtful custom). At night he expired. Probably he would

would now have been an useful father of a family if, instead of diacodion he had taken as many ounces of acid spirit. For I have seen many loaded with pustules who have neither been delirious nor restless a moment, and have joyfully escaped; but then they had not tasted even a drop of laudanum.

Are therefore all the most eminent physicians in Europe to be blamed (except one or two perhaps) who endeavour to subdue the fever of suppuration by opiates? God forbid! There are many whom no one can esteem more than myself do; but their practice is so perfectly right in every other point, that scarce any danger can arise from one single remedy less congruous. Besides, their sagacity and experience are so great, that I dare venture to swear for them, that in many cases they beware of opiates which they commend in general. Moreover they generally prescribe syrup of white poppy heads, which I have frequently found in the shops rather demulcent than narcotic; nay sometimes from the sugar rather possessed of an acid than a narcotic quality. And that there was the same difference in this syrup in Sydenham's time, appears as well from his remarkable observation, that hysterical women use liquid laudanum

laudanum with benefit; and on the contrary, that syrup of diacodion disagrees with them vastly; as from the caution he has given us from his own experience, that liquid laudanum sometimes heats in the Small Pox, which fault syrup of diacodion was entirely free from.

Is opium then to be entirely laid aside in the cure of the Small Pox? No; it has its uses, and deserves great commendation in this disorder, but not in those cases wherein it has been particularly commended.

I administer it, 1st, When the vital powers seem too weak, and there appears a necessity for cordials. Thus I frequently prescribe it to weak children of an irritable habit, who are attacked with anomalous symptoms before the eruption and during the first days after the eruption, attended with an irregular weak pulse, cold and faintings; by the use of opium I raise their strength, than which there is not a more excellent remedy, whenever the virus, being repelled to the internal parts, requires to be thrown upon the surface of the body. Thus, not long ago I altogether removed a most severe pain in the stomach proceeding from the gout, by a large dose of liquid laudanum. A severe  
pain

pain immediately seized the knee, and the stomach was entirely freed from the complaint.

But the use of opium in the Small Pox easily degenerates into an abuse. When the virus is deposited on the skin, the animal powers before oppressed are wonderfully relieved; and unless opium, which has been the means of preserving life, is laid aside, it will soon prove fatal a most violent suppuratory fever arising, that requires to be subdued by the most powerful refrigerants. I cured a child last autumn, who had taken a drachm and a half of liquid laudanum within the third and fourth day of the distemper, owing to his extreme weakness and irritable habit; and a copious eruption being perfected, continued very well for some days. On the ninth and tenth day he took six drachms of spirit of sulphur, the fever absolutely requiring it; I have seldom seen such a change in adults. But like children, I have observed, all those whose constitutions are weak, nerves irritable, and spirits depressed, have occasion for opium, which strengthens the circulation, calms the nerves, and raises the spirits, and I have always administered it to such boldly.

2dly.

2dly. It is of use for children which have the disorder kindly, but are uneasy from the pain of the pustules, and cannot be kept in bed; for then opium lulls the pain, prevents cold, and the distemper grows on favourably; for very little or no mischief ensues from so small a quantity of opiates in such slight cases.

3dly. If at the time of the eruption the humours flow too impetuously to the intestines without a phlogosis, and the diarrhoea threatens an entire loss of strength, I have seen opium, beyond all hope, repel the virus towards the skin, and the diarrhoea being stopped, the skin grow moist, the pustules rise, and the strength recruited.

It also happens sometimes in malignant cases, that the belly being too loose during the whole course of the disease, plainly exhausts the strength with frequent dejections of mind and a coolness of the extremities. In such cases I have been obliged frequently to administer large doses of opium, nor have been afraid of diacodion, which by its gentle restraining power strengthens the intestines. A simple mixture with the acid spirits is then subjoined with propriety. Nor can I be herein taxed with the incongruous mixture.

mixture which I have above condemned ; for I do not oppose opiates and acids, as contrary remedies, to the same symptoms ; but stop the diarrhœa, a fatal symptom, with its own remedies, whilst I boldly attack the putridity, the cause of the disease.

4thly. If patients, especially young persons, have either taken warm medicines, or indulged themselves in too plentiful a diet and not sufficiently cooling ; if the body has been too long costive, or unreasonably rendered so by acrid remedies ; if purging has been too long deferred ; if lastly, some error has been committed in the non-naturals at the time of the drying away of the pustules, they are frequently attacked with a copious diarrhœa, by which not only the relics of the virus are evacuated, but all the humours flow to the intestines, irritated by the variolous virus ; the pustules soon are depressed, wither away, and become empty, resembling empty husks, which are then properly called filiquous ; the skin grows pale and flaccid ; a delirium and frequent syncopes come on ; the extremities grow cold, and the patient dies. I have known many perish in this manner. I was myself a witness to the death of two, being sent for too late. The first expired the very moment

ment I entered the room; the other lived about two hours after I visited him. I have saved many when sent for in time, by a plentiful dose of laudanum, which restrains the too great peristaltick motion, and restores the cutaneous circulation; and the strength is recruited by a soft milky liquid diet, which obtunds the acrimony.

In this case blisters also are of service, but they operate more slowly; and what perhaps will strike but few, opium and cantharides are similar remedies; in the Small Pox and some other disorders I have very frequently administered them in conjunction. As opium, so cantharides recruits the strength and raise the spirits, cause the humours to flow towards the skin, and check the diarrhoea. I have often successfully prescribed opium, when in a weak patient a spasmodic sleepiness has preceded the eruption, and it has done within an hour what blisters would have more slowly performed. There is one symptom alone, in which, notwithstanding these good effects, I refrain from opiates, namely, when the acrimonious virus having left the skin, is thrown upon the lungs, with a very frequent quick weak pulse, dryness of the skin, difficult breathing, vast anxiety and delirium.

delirium. This is truly a terrible case, and one of the worst that can happen in this distemper; however, when sent for early I have sometimes happily cured it, by applying large and sharp blisters to the calves of the legs, and prescribing plentiful draughts of a decoction of barley and elder sweetened with honey, together with very small doses of Sulphur Auratum Antimonii after four hours; by this treatment, the quickness of the pulse abates, the anxiety goes off, the skin becomes moist, and the strength revives. The breast being now entirely freed from its load, and the fever being lowered, nature may be assisted by a gentle narcotic. The blister should be kept running for some time.

Blisters are very hurtful in that drowsiness which proceeds from the force of the fever and turgidness of the vessels; they are especially prejudicial in the violent fever of suppuration, whatever Dr. Friend and his followers have said to the contrary; and I with pleasure, see his opinion on this head relinquished by the moderns. If they were ever of service, they could only be so by evacuating a large quantity of pus; but they are attended with so many faults, that it would be dangerous

dangerous to apply them with this intention, especially since good incisions in the arms and legs promise the same advantages without the danger, long ago used in England, and of late brought into use abroad; and besides it remains a doubt whether they evacuate the true variolous matter that existed before their application, or a fresh matter which they themselves generate. These are the effects of cantharides, which are opposite to the curative indications; (a) they increase the fever, inflammation, thirst, and putridity which we intend to diminish. PANAROLUS has seen the force of the circulation so much augmented by cantharides, that in this fever the blood forced open a vein that had been opened several hours before; (b) they excite the inflammation of the skin which ought to be assuaged; (c) they frequently lessen the urinary discharge which ought to be promoted; (d) they sharpen the pains which should be lulled; (e) they prevent the body from being kept open, a circumstance to be desired; in a word, they answer no one indication, they are contrary to many.

5thly, A lenient narcotic is of service after purging, towards the turn of the Pock as

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was Sydenham's method, for persons upon recovery are irritable, and purgatives cause an ataxy, which opium relieves.

6thly, It is also useful in those colics which towards the end of the disease and declension of the fever, having nothing common with the Small Pox, proceed from a long use of acids or refrigerants. After injecting a clyster first, the use of the poppy reproves the disorder. Let the women rejoice, it is here right to administer Venice treacle.

These and a very few others are the cases which safely allow of the use of opium, in all others it is much safer to abstain from it. I have one thing only to mention, lest any should judge me an enemy to opium through prejudice. It is, indeed, an admirable medicine, which, far from having an aversion to, I frequently use; but willingly confess that I could not easily believe that a remedy ought in all cases to be administered, whose most certain effects are to force the blood towards the head and breast, increase the fever and inflammation, weaken the digestive powers, and restrain all the natural evacuations, except sweating.

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It may, perhaps, be asked, You reject opiates by which others repel the force of the fever, what remedy then do you administer? I answer, the same antiphlogistic method which familiar to the Arabians, the learned Dr. De Haen, a name dear to physic, has so clearly pointed out. None of the efficacy of this method is lost by the omission of narcotics, but besides I augment its power by a plentiful use of mineral acid spirits.

The vegetable acids recommended by the Arabians have been prescribed by many physicians, until the time of SYDENHAM, although they administer at the same time, from a blind prejudice, bezoartics and narcotics. Sydenham did not use them much, but in the malignant gangrenous sort, which raged in the year 1670, and again in the year 1674; he in this last year advised spirit of vitriol to be mixed in beer to a grateful degree of acidity; and he speaks again in praise of the same remedy in the like case in his celebrated epistle to Dr. COLE, and in his *processus integri*; but what is wonderful, every where directs this remedy to be administered until the eruption of the pustules is entirely completed, but seems

to leave it off at the time of suppuration; he must therefore, have been ignorant of its great efficacy against the secondary fever.

The English physicians, who have so much enriched physic, and to whom I willingly and gratefully acknowledge myself much indebted, following the steps of Sydenham, prescribe the spirit of vitriol with aromatics in the malignant anomalous Small Pox. But they are entirely silent concerning its true use in the secondary fever; yet they would not have been so, if like me they had known, that a more excellent remedy cannot be administered. And truly they act consistently who, while they direct narcotics with design to subdue the fever, abstain from the acid spirits; for they are opposite remedies, and weaken each other's efficacy, as will be presently shown. But I have hopes that the illustrious TRALLES, who knows the mischiefs that opium produces, will readily agree with me, and truly I shall rejoice and glory in his assent as I glory in the assent of the learned Sydenham; for what he says concerning the true virtue of spirits of vitriol, may be considered as such. Nor can I conceive,

ceive, that he did not administer it as a sacred anchor against the secondary fever, as often as I read in his works, "*I should think spirit of vitriol capable of answering both intentions, viz. of opposing the putridity, and of subduing the excessive fever.*" For the medicine that possesses this double virtue fulfils every indication of the variolous fever; especially if it promotes urine and the salivary discharge. But acid spirits are capable of doing all this, which, unless I am mistaken, DR. HALLER first took notice of, speaking of an epidemic sort at Bern in Switzerland, which from its putridity seemed to indicate a necessity for acids; "*on the evening of the ninth day, I added spirits of sulphur to their drink on account of the putridity and secondary fever.---On the tenth day the pustules, before blackish, grew yellow after taking the stronger acid;---and some desire of food returned.*" But these useful observations not being sufficiently attended to seem to have induced few, if any, physicians to follow the practice.

The principal danger in this fever arises from the heat, inflammation of the skin, obstructions of perspiration, and continual

absorption of the purulent matter, whose passage into the blood, none are ignorant, always causes the fever which, from its putridity, is so fatal to human nature. It indicates therefore a remedy that lessens the febrile heat, evacuates the retained perspirable matter by some other excretory, restrains the effects of the absorbed pus, and counteracts the beginning putridity of the humours. Acid spirits can do this, but no other remedies whatever in bad cases. "I have seen," says the illustrious SWENKE, "*butter-milk and lemon-juice in the putrid Small Pox, instead of lessening the putridity, soon change putrid too.*"

The mineral acids which I had successfully prescribed in the malignant, especially in the bloody kind, I first opposed to the secondary fever about the end of the year 1754, in a dangerous case, which there were no hopes of subduing by vegetable acids, and other hitherto celebrated remedies. An Angina seemed to threaten, which I removed by bleeding, and I ordered the patient to sip within the space of three hours two drachms of spirit of nitre, mixed with two ounces of syrup of violets, whence a pleasant

fant red colour, and plenty of pure water; hence a remission of the fever, and a plentiful urinary discharge beyond all expectation. I continued it in a smaller dose; rendered the belly soluble, and the patient recovered, whom I expected to lose, and who certainly would have died, had it not been for the spirit of nitre.

In the following year, when a very bad sort of Small Pox raged, I frequently prescribed the same remedy, and happily cured patients labouring under the worst confluent kinds of this distemper, by taking care that they should take nothing during the whole course of the disease, but barley-water, emulsions, lemon-juice, sugar, acid spirits, and spring-water; and especially by abstaining from opiates.

I not only prescribe the acid spirits in the secondary fever, but whenever the fever runs too high, and they have never disappointed my expectations.

Lately I attended a girl of ten years of age; about the sixtieth hour after her sickening, so vehement a fever came on, attended with a delirium, anxiety, and small brown cutaneous spots like ecchymoses, that I was very

fearful of the event. After prescribing a clyster, I directed three drachms of acid spirit to be taken within four hours. The fever sensibly abated; the patient had a tolerable night, and in the morning there was an eruption of pustules of the mildest kind, attended with a breathing sweat. In the fever of suppuration I order large doses, and I lately cured a patient who within forty hours took two ounces of spirit of sulphur mixed with syrup of violets and their emulsions.

I have this Autumn seen children labouring under an hemorrhage from the nose, and bloody urine, with bad pustules, and a very quick pulse, happily cured by using for victuals and drink only barley-water; and for a medicine only large doses of acid spirits sweetened with syrup of mulberries. I know many great men in this case recommend various astringents, alum, catechu, dragon's-blood, but they seem to be liable to many inconveniencies; nor have I ventured to administer them; their principal virtue consists in their acid principle.

Others advise the Peruvian bark, which I mean not to defraud of its due praise in the  
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Small Pox ; but I confess I have never prescribed it in a severe secondary fever, after a truly inflammatory disease, because I have never seen a case of this kind where it could be safely administered ; and I should chuse to give it cautiously in bloody urine. Indeed it seems unequal to fulfil the indications of the secondary fever, it is contrary to some of them ; but it is of great service, as in malignant fevers, in those malignant kinds of Small Pox which show the fibres to be in a lax state, the blood dissolved and putrid, extreme weakness and continually threaten a mortification from the vapid and putrid blood. In such cases four or five drachms of bark, taken every day, during the whole course of the distemper, happily changes the face of the disease. A boy of twelve years of age after a most severe illness, lost part of his lower jaw-bone, but was happily cured by frequent and small doses of bark mixed with milk, which he sipped and took by spoonfuls as nourishment. It is also useful against that slow fever, which sometimes succeeds the Small Pox, when malignant, or badly treated, and prevents a consumption. Lastly, it is of use when, as I have

have seen, an intermitting fever is joined to the Small Pox ; in all other cases it is of less, if of any use.

Camphor, not unlike the Peruvian bark in its virtues, first brought into practice in the Small Pox by DR. HALLER, I have seen, in conjunction with acids, of vast service in some malignant species of this distemper. These are its uses in the Small Pox, as experience teaches : it revives the spirits ; and by gently stimulating the fibres, curbs the putrid *virus*, and determines it towards the skin ; the extreme use of which, in some variolous cases, every one must readily conceive. However it must be understood at the same time that its use would be more frequently prejudicial. It possesses many of the virtues of opium, and is free from many of its faults, and often should be substituted in the room of that medicine : in some cases they are mixed together not injudiciously, and such a mixture is prodigiously extolled in the great plague of 1564, by that great man CONRAD GESNER, the Haller of his age.

But to return to acids, from the use of which the patient reaps the following advantages : 1st, They promote the flux of the saliva,

saliva, which indeed (as I have taken notice) prevents sleep; but once more, of what consequence is this? The destruction of the causes of the distemper is sleep to the patient.

2dly, They promote a plentiful urinary discharge.

3dly, The body which is rendered extremely costive by narcotics, is kept open by the use of acids; and clysters alone often procure considerable evacuation. The diarrhoea mentioned above, which arises from the acrimonious fordes retained or deposited in the intestines, and is never void of danger, scarcely ever happens; for a sudden and copious diarrhoea hapening towards the end of the suppuration is as prejudicial, as an open state of the body during the whole course of the distemper, and a gentle looseness produced by nature or art at the time of suppuration are serviceable.

4thly. The fever, heat, thirst, anxiety, and itching, are less.

5thly, No Angina is to be dreaded, and what I have often wondered at, and am ignorant to, what specific virtue of acids to attribute

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it, I have hardly ever observed a phrensy or delirium.

6thly, The illustrious DE HAEN, a man born to increase physical knowledge, complains that *the most favourable kinds of Small Pox are sometimes changed into malignant, from causes hardly to be discovered; and that he has sometimes seen death happen suddenly without the least subsiding of the pustules.* SYDENHAM, FRIEND, and others, have long ago complained that they have seen both cases. In the year 1755, being called in on the tenth day of the disease, I found a boy already dead, the pustules very distinct and large, but in great number, who (as I was informed) seemed all along in a fair way of doing well, but being suddenly seized with a violent pain in his head expired within two hours; I was not suffered to open the body, matter would certainly have been found within the head. But whence absorbed, the pustules being all full? Those who read DE HAEN's works attentively, will not be ignorant of the spring. I have seen several others who had this distemper favourably enough, seized with anomalous symptoms at the time of maturation, and especially of suppuration; and

and the disease before favourable became malignant. I have sometimes, with the blessing of God, been able to remove the danger, at other times my endeavours have been unsuccessful. The absorption of the putrid miasmata is always the cause of these sad changes; for from putridity proceeds malignity, or if it is deposited on any noble part, it frequently occasions sudden death. I have seen an hepatitis fatal from the same cause. These cases happen less frequently when the antiphlogistic method is pursued; I doubt whether they ever happen where mineral acids are plentifully used; for I have never seen an instance thereof, where that practice has been followed; and no wonder; for whatever of a noxious quality is mixed with the blood, is immediately corrected by its antidote, and evacuated by the excretories always open.

7thly, I have never observed, even after the worst cases, those tedious, troublesome, and sometimes incurable relics, produced by the unsubdued and retained *virus* deposited in different parts.

I administer the mineral acids at all times of the disease, when the fever runs too high; and  
always

always in bad cases, from the first attack of the suppuratory fever, till it has remitted so much, as to convince me of all danger being past. They have never yet deceived my expectations, and I am induced, by long and frequent experience, to believe firmly that mineral acids are the best curb hitherto known for the virulence of the Small Pox; and I earnestly request all physicians that, laying aside opiates, they would try what and how much they are capable of performing; for I am thoroughly persuaded that many very desperate cases may be cured by their assistance, which all other methods are incapable of relieving.

But I again advise those who are desirous of trying the effects of acids, to beware of narcotics, which curb their effects; for their virtues are entirely opposite. Permit me to give a cursory view of their difference. Narcotics increase heat and putridity, the acid spirits retund both; the first increase the difficulty of breathing and anxiety, the second abate them; narcotics render the body coctive, and lessen the secretions of the kidneys and salival glands; acids promote all these secretions. Narcotics dull and cloud the  
mind;

mind ; acids render it serene : in a word, they have no one common property ; on the contrary their properties are all opposite. Compare both with the variolous indications, and then make your choice. One animadversion more on acid spirits only remains, which I would by no means omit. Since vegetable acids are unanimously recommended, why have not physicians had recourse to the most powerful, when the weaker have proved inadequate to the disease ? certainly, if the weak species of acids are proper in the disorder when mild. the more efficacious ought to be boldly prescribed in bad cases.

As the acid spirits taken inwardly have such excellent effects, so also the vapour of vinegar, recommended by HIPPOCRATES, soon remedies (beyond every other medicine) the variolous orthopnea that proceeds from an inflammation of the lungs : I have prescribed it often, and it has seldom failed ; and same reports, that by this remedy Dr. Haller cured a pregnant lady who was given over by her physicians, and, according to the custom of the place, had perhaps taken warm, heating medicines.

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Do not imagine, however, that I wholly trust to acid spirits; no: but I call to my assistance the whole antiphlogistic method so much recommended, omitting opiates only as contrary to the other remedies.

Bleeding, of no use in the distemper when favourable, and prejudicial when malignant, ought to be repeated in the beginning of the disease when severe, till by the pulse, laxity of the skin, and remission of the symptoms, the phlogistic diathesis is perceived to be resolved, the inflamed parts relieved, and the skin softened; and is to be had recourse to during the whole course of the disease, whenever there is reason to apprehend a true inflammation, *both before the eruption*, as PATIN observes, and *during the eruption, and after the eruption is completed*; for the whole disease proceeds from the blood, therefore those who forbid bleeding are highly in the wrong. Besides bleeding, I particularly approve of clysters, pediluvia, and when the fever is very high, of the patients sitting up as long as possible; and, instructed by long experience, I am thoroughly convinced of the truth of SYDENHAN'S assertions concerning the mischiefs that arise from patients keeping their beds, not-with-

withstanding what Dr. Mead says to the contrary. In a very bad case I kept a lady about thirty years of age, who was pregnant, and vastly full of a confluent sort of Small Pox, sitting upright on the middle of a couch upon on all sides to the air for seventy hours, and I have always obtained many advantages from this practice; for

1st, The fever remits,

2dly, The patient breathes more freely.

3dly, the humours do not rush towards the head, but to the depending arms and legs.

4thly, The kidneys are less heated, and the urine flows more freely.

5thly, The putrid exhalations are not retained between the linen, but continually fly off.

6thly, The air is constantly changed, and I solemnly declare that I have frequently seen the distemper take a favourable turn from the very moment the patient has quitted his bed.

Yet I do not deny but there are cases which require the patients to keep in bed, instances of this kind daily occurring in

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practice. But I am now speaking of the violent suppuratory fever and inflammatory symptoms.

The refrigeration of the air so frequently necessary, especially when the Small Pox rages in the summer, is certainly obtained by sprinkling of the floor, and insides of the walls as well as the outsides, if exposed to the sun, and by the evaporation of a pot of water in which an aspen or willow bough is put; which method, recommended by the ancients, and especially the *methodic* sect, is made use of by a few of the moderns, and which I myself, during the Dog-days, though in health, have beneficially used in my own bed-chamber.

It is also necessary to change the linnen, whatever some people may say, for they are horridly daubed, at the time of suppuration by the bursting of the pustules, and the patients must suffer some injury from remaining wrapped up in these putrid cloaths.

By bathing of the feet, or lenient fomentations continually applied, the feet and legs are disposed to afford an easy passage to the humours, and then I apply blisters to the soles of

of the feet, which draw the humours towards these parts. From this remedy the inferior parts swell more than can possibly be believed by those who have not experienced it, and the superior parts subside, and the fever abates, which frequently exhibits this velocity of pulse in every other fever so soon fatal. I have this year seen in a patient whose neck was swelled to a dreadful degree, the part lose one half of its diameter within twenty minutes after the application of sinapisms to the soles of the feet, and the patients being taken out of bed. It is true the patient suffered violent pains in her feet, which I persuaded her to undergo for two hours; after the expiration of which time, the legs being vastly tumefied, I directed the sinapisms to be removed.

To immerge the legs in warm water is not always sufficient, the whole body should be bathed; nor is there a more excellent remedy; which at the same time wonderfully calms the inflammation, for it is the most powerful of refrigerants, and relaxes the skin beyond conception. It is especially useful for children; and the praise is due to

BOUVARD, principal physician to Louis the Thirteenth, the father of the modern French practice of physic, who first, to the best of my remembrance, restored it to use about the year 1630 ; but a second time almost lost in oblivion revived by SENAC with great applause. The skin of adults being harder, sometimes requires a more emollient vapour, which is easily procured by placing the patient quite naked, with his legs immersed in a vessel of hot water, and carefully covering his body with thick cloths or flannels, by which the vapour being retained is most conveniently applied to the whole surface of the body, the head excepted, and may be increased at pleasure, by adding a fresh quantity of hot water.

Not the least aliment, nothing nourishing should be allowed during the whole course of the suppuratory fever. Emulsions are all nourishing aliments, and rather improper while there is a necessity for acid spirits ; which I only prescribe very weak, and more frequently lay aside ; but many patients earnestly solicit them, because they lubricate the whole superficies of the lips,  
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and inside of the mouth excoriated by the continual salivation, which on the contrary all other liquids irritate.

Yet I readily allow the watery acescent fruits, which so excellently revive the sick, obtund the heat and fever, counteract the putridity, and promote the excretions. They are especially serviceable to children, by keeping the body open, whence the less necessity of clysters, the application of which is often painful. Strawberries, raspberries, carrants, cherries, both sweet and sour, &c. I suffer the patient to eat plentifully in the summer; in Autumn grapes, but more sparingly.

The poor get over the disease happily, when not very severe, by drinking plentifully of whey; a medicine unequal to the disease when severe, but its virtues may be increased by the addition of vinegar. For this kind of Posca, a cheap remedy, though of great efficacy, expels putrid fevers of the milder species.

I dilute the saliva when viscid, and open the nostrils when clogged up, by injecting with a syringe of oxymel diluted with

warm water; and it is wonderful what benefit the patient receives; for injections succeed far better than gargles. Such circumstances perhaps may seem of no consequence to the unexperienced; but they are of great moment. I have seen the velocity of the pulse and anxiety sensibly abate, after opening the obstruction of the nostrils by repeated injections.

I always advise opening not only the pustules of the face, but of the neck, hands, arms, legs, feet, in short of the whole body, but particularly those of the face, neck, and extremities, because in these parts they are generally larger, more numerous, and the skin more distended; and as the pustules are opened, the parts subside, the pain ceases, and all the symptoms abate. Nor can I sufficiently extol the advantages of this method, recommended by the Arabians, since attempted by some, and cried up by others, and in the first place by FELIX PLATERUS, who regarding only the beauty of the face, well advises, "*unless, they are opened when ripe, with a needle or some other sharp instrument, the flesh is corroded by the retained matter,*"

ter, whence hollow little ulcers are formed, the cicatrices of which leave pits. He afterwards advises to wipe away the matter and ichor frequently, and observes, that mothers too carefully prevent their children from scratching, to allay the itching, lest they should burst the pustules, imagining this would produce pits, whereas, as has been observed, pits are produced by the pustules that remain whole, or are a great while before they burst. But this method is of use in another respect of more consequence, overlooked by Platerus; it prevents the absorption of the pus; and the skin being relaxed, and the pain lessened, the greatest stimulus of the fever is at an end, and thus by subsiding of the face and neck, the humours are less forced to the brain. Nor would any other method so certainly remove the secondary fever, as if the pustules all ~~the~~ the whole body were opened and de-<sup>over</sup>terged as fast as they filled. But the nature of the secondary fever was not understood at the time P L A T E R U S flourished. The younger P R I O E R I U S well advises that it is a putrid fever, to be cured by venæsection, purgatives,

gatives and refrigerants ; yet he does not seem to have known the true causes of it ; and this praise is due to our age. HOLLAND first, unless I mistake, pointed out the opening of the pustules, which was the safeguard of beauty with the ancients, as a remedy for the disease.

I have seldom observed, even in infants at the breast, a critical diarrhoea. I have seen several, scarce four years of age, seized with a salivation and costiveness, which I have never delayed to remedy longer than two days, even in the most slight cases.

I cured a girl, who, on the third day of her illness, no pustules appearing, of a sudden spit so plentifully, that her mother thought she spit several pints in the space of two hours. The salivation stopped suddenly ; a violent fever came on ; ~~on~~ the fifth day the salivation returned, and she continued spitting until the eleventh day in a very distinct sort of Small Pox. Mechanic necessity forces a spitting in many cases ; but does the variolous virus particularly affect the salivary gland ? many circumstances seem to induce one to think so.

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We hear patients frequently complain of a sore throat; for this pustules of the fauces are blamed, but wrongly; this symptom proceeds from the phlogistic infarction of the pharynx and neighbouring parts, and often presages a salivation; and I reckon pustules of the fauces among those extraordinary cases which seldom happen. I have seen the whole body loaded with innumerable pustules, yet none on the inside of the mouth, which, notwithstanding, and edge of the tongue, I have in other cases seen beset with them, but soon passing through all their stages. They seldom ascend higher than the nostrils, and I do not remember to have seen any patients spit scabs or evacuate them by stool.

I formerly dissected four bodies, the external surface of each of whom was so loaded with pustules, scarcely to be able to hold one single pustule more, the whole alimentary canal, the larynx, trachea, and lungs, showed not the least signs of any. And truly I can hardly conceive it possible that persons could live, who, as many authors relate, have had the larynx, trachea, and  
lungs

lungs beset with pustules ; I can scarcely understand how the irritation of the glottis and larynx, how matter continually oozing into the trachea and bronchia of the lungs, can have failed exciting a fatal cough very speedily. I have found indeed those parts inflamed, putrid, and tabid, as I shall mention more fully elsewhere, but not a single pustule. Nor can any one believe a priori that those parts are beset with pustules ; for there would be no cutaneous pustules if the epidermis had the softness, laxity, and warmth of the inward parts. They have very few whose skin is so prepared as to resemble them ; witness the celebrated FISCHER ; and indeed I cannot believe that the internal skin which allows so easy a passage to the *virus*, can be distended by it, unless forced by autopsy. Perhaps those who affirm the existence of internal pustules, among whom I am astonished to find the illustrious GUNTZ, have concluded that pustules existed from the ulceration. I with joy find the observations of HALLER coincide with mine, and both clearly shew the weight of the French Surgeon's hypothesis, who fancied malignant

nant fevers proceeded from an herpes of the stomach.

I shall add one single observation concerning cathartics. In the confluent kind and when the pustules are numerous, from the first access of the suppuratory fever, I prescribe manna with a view of purging, and often procure three, four, and five stools even on the ninth day; nor do I then desist. I have never had occasion to repent my following this practice, and am certain those who make the experiment will have no less reason to be satisfied: yet I see all other physicians defer purging longer; but I have hopes early purging, which reason persuades, and of which manifold experience confirms the utility, will meet with no opposers. In favourable cases I purge as soon as the face begins to turn yellowish, and this method succeeds more happily than when, according to custom, it is delayed until the desiccation of the pustules.

I am certain that these early purgings prevent the bad consequences of the disease, and indeed one purge answers this intention  
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more at this time when, the humours in motion as yet flow readily, than three or four administered later. Early purgation prevents that second suppuration of the pustules, which sometimes follows desiccation. The ulcerated cutis oozes out such a quantity of matter, that the whole blood seems changed into pus; its surface is covered with thick scabs, and the linen, soon stiff with the matter, raises flesh excoriations every where; the patient is emaciated with a slow fever. Happily this case is not frequently met with, and I have never seen such a one, except in the cachochymical habits; or persons badly treated, where purgation has been delayed too long. It is to be cured by purging, and a milk diet, either alone, or joined to the Peruvian bark.

Patients whose cure has never been undertaken, or which is more dangerous, have been badly treated, are liable to other and worse consequences. Out of many instances of this, I will relate one which happened lately. A boy about six years of age was attacked with a distinct kind of Small Pox, and though pretty full, got over the dis-  
temper

temper tolerably well, except that the right eye, from the very beginning, was inflamed and the sclerotica beset with white pustules; towards the end of the disorder being inflamed again, the cornea was covered with pustules. The disorder had got to such a height, and the eye-lids were so turgid and inflamed, that it was not possible to open them, and examine the eye. Various hurtful applications had been tried; at length the parents had recourse to me, being afraid the eye would suppurate. I directed a cataplasm of bread and milk, and a low slender diet. After the above cataplasm had been applied for three days, the inflammation being a little abated, gently opening the eye-lids, though not without pain, I saw the whole cornea covered with a whitish tumour. I directed the cataplasm to be continued two days longer; there was then a change for the better, for the pain had abated, and the tumour was grown softer. The cataplasm being still continued, on the eighth day there was a discharge of matter, and the pain ceased. A white pellicle remained: I ordered the  
pultice

pultice to be continued two days longer, with the addition of a few chamomile and elder flowers; then all fear of inflammation being at an end, I only applied fine linen compresses, dipped in a decoction of the risolvent flowers, and fennel roots, in water, with the addition of a fourth part of wine. At length the pellicle being removed entirely, a speck only remained, that was soon taken off by a collirium, and the sight remained good. Another lad, to my certain knowledge, who had the disorder in a much more favourable manner, being treated in a different manner, lost his eye-sight. What was the disease? A variolous pustule; so it seems; which if it had been improperly treated a little longer, would either have degenerated into a schirrus, that would have destroyed vision, and been an eternal blemish, or would have occasioned a gangrene or supuration of the whole globe of the eye.

Whenever I observe this part full of pustules, I immediately direct it to be fomented with milk, the most lenient of all fomentations; luckily this case is uncommon,

mon, and is more particularly the surgeon's province. But pustules frequently arise in the sclerotica, with a continual discharge of the tears, but are not attended with danger.

The other consequences are, 1st, The strength is exhausted by the severity of the disease; this is remedied by a milk diet, the Peruvian bark, and exercise.

2dly, Matter is sometimes deposited on particular parts. The cure consists in evacuating the matter by the rules of art; or expelling it to the more ignoble parts; and observing a low and antiseptic diet.

3dly, Some particular part has sustained an injury; the best method then is to keep to a slender and mild diet, use frequent purgation, and the most emollient fomentations to the injured part.

There are three general precepts, the careful observation of which is of great consequence to prevent these calamities.

1st, To avoid a close confined warm air, and heating medicines.

2d, To abstain strictly from flesh, broths, eggs, and wine, while there is the least fever or matter

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matter present ; as HALLER has remarked twenty-five years ago.

3d, To purge maturely.

The more benignant epidemics have their anomalous species, which cannot be ascribed to the depraved constitution of the air, and therefore are to be explained from the morbid causes proper to the patient. I mean not to relate them all, but it may be of use to mention a few of the principal ones that I have more frequently observed. Children who have the abdomen stuffed with saburra, when this fordes is corrupted by the febrile heat, are attacked with violent symptoms that have no connection with the disease, and necessarily require their particular evacuating method of cure. This cause is known by the violent head-ach, or frequently uncommon drowsiness beyond the power of the fever to shake off ; by the fetidness of the breath, uneasiness and loathing of food remaining after the eruption is completed ; by the fevers continuing with anxiety after a kindly eruption ; by the fetidness of the feces and frequently a fetid diarrhoea without the pustules being depressed. In such cases, I have

have sometimes seen patients have forty stools within twenty hours, without any ill consequence. Even in the distinct sort, when the salutary diarrhoea, which evacuates the virus, is foolishly stopped by theriaca, and other medicines, the heat instantly increases, and a plentiful eruption succeeds; the attendants rejoice, but the patient will rue it: at the time of suppuration come on the following symptoms; viz. a delirium, crude turbid urine, and many others. In the interim the pustules fill kindly for some days, but towards the end of maturation, and at the coming on of the suppuratory fever, all is disturbed, and the most grievous symptoms of a sudden breaking out, though the patient has only a favourable kind of Small Pox, yet soon dies delirious, lethargic, or from a difficulty of breathing, with a fetid diarrhoea, low weak pulse, and excessive weakness. When sent for in the beginning of the distemper, I have always endeavoured to prevent these fatal symptoms, by purging the patient every day, even from the third day of the distemper, with cream of tartar and tamarinds;

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and as the belly was rendered soluble all the symptoms receded ; and I have seen the event so fortunate, that at the time of supuration, the patient so often purged scarcely required the least medicine. I purge forward children without their knowledge, by dissolving emetic tartar in their drink in such a dose, as not to excite vomiting, but only the intestinal discharge. When sent for late, and the disease now raging, as on the tenth or eleventh day, all medicine is sometimes in vain, at others I have been successful. The only hope consists in immediate purging, then the plentiful use of acids, and afterwards in repeated purging. I have seen such a putridity, that I have been obliged to premise acids, and purge directly after. In a benign case, the snake often lies hid in the grass a long while, and then at length after some days appears, and may easily impose on the unwary, and be mistaken for another disorder ; the mistake is easy, but irrevocable ; purging is the only remedy ; I shall just mention a remarkable instance of this kind in the measles. Out of a family composed of six children, two died of the measles in the country,

country, which disorder two others of them happily got over. The youngest of them, about twelve years of age, caught the same distemper, which proved favourable for the first five days, except that the fœces and mouth smelt very fetid. On the sixth day, exsiccation being just begun, he was suddenly seized with a prodigious difficulty of breathing, a hiccup, nausea, delirium, and a very irregular pulse; the parents frightened, applied to me. The symptoms threatened a fatal end, there was no kind of phlogosis; or plethora, no retrocession of the virus; these symptoms all arose from the putrid saburra. The patient refused all kind of medicines. I bethought myself of kermes mineral, a small dose of which I got down in a preserved cherry; he swallowed a grain unknown to him, which vomited him beyond expectation. The delirium and difficulty of breathing abated. I directed a clyster; administered another grain of kermes mineral, which gave him four stools; the urine flowed copiously, a plentiful sweat succeeded, and the patient within three hours was in a fair way of recovery. In other like

cases I have found oxymel of squills a most excellent remedy, and deserving of the praises it has long ago obtained, and which *Sydenham* has not denied it. It deserves encomiums also in other cases, and manifold experience has taught me, that what *GESNER* says of his antidote, may be applied to this medicine, *for it wonderfully expels infections and other bad humours from the center to the superficies of the body.*

At the expiration of three weeks, the sister, who was six years of age, underwent the same fate, except that being in her senses and desirous of medicines, she readily took manna; her stools were extremely fetid, and she was soon restored to health from the brink of the grave. The two eldest, as I was informed by their parents, expired a few hours after being bled. The anomalous symptoms are worse in the Small Pox which arises from malignity. I shall not repeat here the signs and species of malignity, which are fully described in a new treatise on fevers; it is sufficient to observe, that excessive weakness, scarcely any pulse, a continual

continual fever, a slight but continual delirium, very small, watry, ichorous, black pustules, cutaneous spots, hemorrhages of the pores and excretories, perpetual anxiety, loathing, apathy are certain criteria of malignancy in the Small Pox. The cure is to be attempted by acids and corroborating antiseptics. Whenever an alcalescency and hot dissolution of the blood seems to prevail, the acid spirits alone are to be administered. Where there is a vapid diathesis of the fluids, and a laxity of the solids, the bark, cantharides, camphor, and snake-root are to be subjoined; in short, the whole method laid down by the English physicians, particularly the celebrated HUXHAM, spirit of vitriol and the simple mixture are of vast service here: nor does sulphur auratum antimonii joined to camphor want its utility, both are remedies in other pestilential disorders. Nor is too great a shock to be apprehended from a gentle dose of ipecacuanha, which remedy is of great use in similar disorders, and a kind of arcanum in the miliary fever, according to HALLER; I have also sometimes successfully infringed the law, by

which I have strictly forbid the use of emetics in the cure of the Small Pox.

But enough of the Small Pox, I shall next lay before the public a few observations on the apoplexy, and paralytic complaints.

PRACTICAL

## PRACTICAL OBSERVATIONS

## O N T H E

## Apoplexy and Paralytic Disorders.

**A**UTHORS beyond number, and indeed some good ones, have wrote on the apoplexy; but with the leave of such great men, I propose taking the liberty to add a few remarks on the generation of the disease and prophylactic method.

There are many causes why the brain is more easily loaded with blood than other parts; I shall just mention the principal.

1<sup>st</sup>, There is no part of the human body of equal size to which so great a quantity of blood is detached; for it receives at least one sixth part of the whole quantity of blood, nay a third, if we may believe MALPIGHI.

2dly, There is no part of the human body to which it passes with such force from the strongest ventricle of the heart, the force not being broke by the curvature of the aorta, which produces a greater obstacle to and retards its force more than the flexions of the carotids and vertebral arteries.

3dly, The more volatile parts of the blood are determined towards the brain by a mechanical necessity; hence rarefaction is easily produced and the vessels injured.

4thly, External obstacles no way retard the force of the blood; for the vessels are very strong which pass to the brain, and are well covered. There is no refrigeration, or only very little, on account of the bony case which so finely obtrudes the force of the humours.

5thly, The vessels anastomose so frequently, that the quantity of blood brought to the part is not at all lessened by the obstruction of any one of the vessels.

6thly, The vessels that enter the skull creep into the brain with so many convolutions, that from a very slow circulation, stagnation easily takes place.

7thly,

7thly, The return of the blood is no ways assisted by muscles.

8thly, On the contrary, it meets with innumerable obstacles from the least disorders of the fauces and lungs. For whenever (and this is to be noticed) the quantity of blood is increased in the lungs, and it may be augmented by innumerable causes, the return of the blood from the brain is rendered more difficult.

It is therefore evident why, whenever the motion of the blood is accelerated, the head becomes turgid with blood; and hence is understood why no disorder more frequently threatens human life; and why those whose bony compages of the body is deformed become delirious from business and noise, and are cured by rest and being kept quiet, as I have seen in many instances.

We know by experience, that whenever the encephalon is compressed, some part is deprived of its sensation and motion, in particular that part, the nerves of which arise from the compressed part of the encephalon.

From these positions all species of apoplexies are easily understood; for as an apoplexy is nothing but a deprivation of all  
sense

sense and motion, subject to the will, it must arise whenever such a compression takes place in the whole brain as to suspend the functions of this organ.

I shall not take notice of apoplexies, *δευτερο παθησις*, which owe their origin to other disorders, although they never arise, except when there is a compression of the brain ; nor of others which happen in perfect health from some sudden and external cause ; for instance, from a stroke of the rays of the sun, with which I have often seen children struck ; the smoke of coals, a case which I met with this very month, and cured by cold air, bathing of the feet, clysters, and lemon-juice, also from taking of opium and drinking wine. But there are others which seem to invade suddenly without any manifest cause ; but I am not afraid to assert these also are generated gradually, but have suddenly increased : and this saying of HIPPOCRATES is most true here, *Neither do diseases happen to mankind suddenly, but being collected by degrees, show themselves with violence* ; and truly if any one attentively weighed the physical history of the patient, many symptoms would occur which would foretel

foretel the disease long before it made its appearance. HIPPOCRATES has collected the principal indicatory symptoms; several physicians in different ages have added fresh ones; BOERHAAVE and his illustrious commentator describe many; yet this part of physic lies so neglected, that one would imagine many physicians scarce ever heard of it, which the illustrious author of experimental physic bitterly complains of with justice; who, at the same time, mentions a book of a physician of Verona, wrote professedly on this subject, a fragment of which he quotes, in which the symptoms are finely described, that precede this disease. To enumerate them all would be useless; for they are whatever indicate a greater plenty of humours in the brain, and injuries of the nerves. I have more frequently observed a slowness of understanding, defect of memory, an inexpressible defect of sight, frequent drowsiness, disturbed sleep, frequent paroxysms of the head-ache, a general numbness, slight, frequent, partial, transitory strokes of the palsy; and a sudden freezing icy coldness in the parts which the palsy has afterwards

afterwards attacked. I knew a woman who from this symptom was capable of foreseeing a second and third attack of the palsy in the arm and thigh.

Indeed sudden apoplexies happen without previous symptoms, or any present manifest cause; but attend, anger restrained, and violent sorrow concealed, occasion apoplexies daily.

A gentleman, while congratulating his friend on a victory he had gained over his rival, fell down in an apoplectic fit, and died within an hour after. His body was not suffered to be opened; and, perhaps, some will deny that this case was an apoplexy, but owing to a blood vessel ruptured in the breast, but wrongly, as there is the greatest reason to think. Yet excessive sorrow may affect the breast fatally; I shall beg leave to communicate an extraordinary instance of it. A husband having lost a beloved wife, and mother of a numerous offspring, was seized with a prodigious difficulty of breathing and anxiety. An old physician of great note, fancying the disorder owing to a suppression of an hemorrhoidal discharge, endeavoured

deavoured to promote it by acrid remedies; the patient died within two days. The body being opened, discovered a terrible peripneumony, and the heart itself ruptured, by the force of the blood whose passage through the lungs was intirely impeded. But to return from my digression.

Every apoplexy, therefore, primarily proceeds from a gradual obstruction of the vessels of the brain; but it is asserted to make its attack by a single stroke, and with truth. The disorder hardly perceivable for weeks, months, nay years, is changed of a sudden into a mortal disease. But where is the wonder? who even the least conversant with the history of diseases has not seen the like? when I make an accurate enquiry of patients labouring under acute disorders, concerning what has preceded their illness, I very frequently find that health has suffered some slight attacks long before. Whoever from any violent exercise gets a peripneumony, silently carries the disease about him some time, the phlogistic vice of the blood gradually increasing until, with a dreadful appearance, it breaks out in a fatal disease.

disease. I at this present time attend a peripneumonic patient, who carried the seeds of the distemper about him, caught during a long journey, above four months; from that time he was once seized with a spitting of blood, at other times he was feverish, short breathed, or felt pricking pains, and was at times happily freed by nature by various crises, but at last was seized with a violent inflammation of the lungs. I every day bewail patients who have neglected slight disorders, which indicated a growing disease in the liver or lungs, until at last suffering grievously from the force of the distemper they implore assistance, which it now refuses.

The neglect of those slight disorders which precede a threatening apoplexy, and frequently a long time before the attack, is not attended with less danger; for there is no disease, as the illustrious THIERRY has well observed, which may more easily be foreseen long before; none which is more difficult to cure when arrived at maturity; therefore physicians should indefatigably inculcate the danger of not attending to those slight paroxysms which are forerunners of the

the apoplexy. It is easily prevented, seldom intirely cured; and it is to be observed, that in this case health is badly trusted to nature, for unless she is helped frequently, her very endeavours to overcome the disease render it incurable. The diseases of the liver and lungs already quoted afford daily instances of this; for as long as there is no fever there remains hope, which, a fever arising, that instrument of nature, so much cried up, in a great measure cuts off. Hence we see old persons who are not apt to be feverish bear up a long while under disorders of the lungs, which with the assistance of a fever soon prove fatal to young persons.

The pathology of the apoplexy points out its cure. The principal intention is to lessen the flux of humours to the head; for when a part of the load is taken off, the strength not yet entirely broken becomes sufficient to subdue the remainder. When blood is extravasated from the ruptured vessels, there remains very little or no hope of recovery from the inanition of the vessels, and those fatal apoplexies which are like strokes

strokes of thunder, are generated within a minute.

An infarcted or severe obstruction, when the vessels are not ruptured, does not deprive us of all hopes; but the temperament of the patient, and especially the whole catalogue of symptoms, indicate the necessity of medicines that procure evacuation and revulsion.

Whenëver I find a plethora, or phlogosis, I begin the cure with plentiful bleeding, which by emptying the vessels lessens the compression. In a severe attack of the disorder, I order repeated bleedings; for experience teaches that the patient is never safe while the pulse continues tense or hard.

I prescribe, secondly, emollient and laxative clysters prepared from an emollient decoction, honey and salt.

Thirdly, I direct tamarinds, manna, and nitre dissolved in water, in such doses, as with the assistance of the clysters, to excite a diarrhoea.

Fourthly, lemonade drank plentifully is of service, a practice commended by the antients, who

who advised oxymel and water to be drank in large quantity.

Fifthly, The patient should be placed in an upright posture, with his legs hanging down, the head bare, and the rest of the body cloathed very slightly; for thus the impetus of the blood towards the head is diminished. These circumstances seem trifling; but those who make the experiment will be convinced of their utility.

Sixthly, Ligatures above the knees are serviceable; for, from the greater compression of the veins, part of the blood is detained in the legs, and taken from the rest of the body; hence a smaller quantity in the head. Every body knows their extreme utility in hæmorrhages; and eminent physicians have long ago informed us that the apoplexy is an hæmorrhage of the brain.

While the patient continues motionless, the standers-by, and often the physicians, through the worst of mistakes, endeavouring to restore motion, perpetually fatigue the patient with various stimulants; but how hurtfully! for the motion of the heart is not deficient, which alone we can excite; but the power of sensation and moving the limbs

only to be restored by lessening the compression of the brain; which there is but one method of doing, namely, by taking away the plethora and increased vital powers.

All kind of concussion, rolling about, and frictions are therefore carefully to be avoided; as also all warm, heating, aromatic, or spirituous liquors or fomentations; in short, every thing that might increase the force of the circulation, which it is now our duty to depress. All remedies possessed of any stimulating quality; all aliments which afford much nourishment, or have the least acrimony, are to be religiously abstained from.

The received prejudice concerning the utility of a fever favours hot remedies; and indeed that sentence of the father of medicine wrongly understood has paved the way for the mistake. A fever is only useful when the plethora is removed, and the vessels freed from their load entirely, for then a slight fever arising may open the obstructions, if there remain any. But as long as all the vessels are turgid, a new febrile force added to the preceding momentum of the blood must prove fatal. Therefore the cause of the apoplexy being overcome, a fever may  
sometime,

sometime, perhaps, have proved serviceable; never sooner, and is adverse to the disease itself. In an apoplexy that proceeds from an exhaustion it depresses the strength more.

I have seen frictions of the legs (nor is this strange, for such is the effect of the remedy) increase the redness of the countenance, force and velocity of the pulse, and stertor. I have seen after a purging draught, composed of senna, Sedlitz salts, and some bitter ingredients, taken on a third day after the attack, a fatal paroxysm happen within a few hours. From too nutritious food, viz. two eggs boiled soft, and two ounces of mountain wine, I have known death proceed, when the recovery of the patient was expected. To abstain from all solid food intirely for some days, and to take only very thin, diluting, refrigerant liquids is safety in this distemper; and indeed all kind of animal food should be forbidden a great while.

I am not insensible that I shall offend many by boldly attacking the practice confirmed through abuse, and teaching with a few others to cure the apoplexy by refrigerant medicines; but thus reason and ex-

perience dictate, than which nothing ought to have so great a weight with an honest physician. It is a disorder of the inflammatory kind, and in old persons I have observed the first attack of a continual inflammatory fever exhibit the symptoms of a beginning apoplexy, which would very soon have increased to a true apoplexy, unless I had combated them immediately by the antiphlogistic method.

Blisters are commended every where by the most celebrated authors, and applied by the most eminent physicians, Indeed BOERHAAVE, and his illustrious practical commentator, admonish us that blisters are to be cautiously applied, and not till after being preceded by plentiful evacuations; I have never chosen to apply them in this species of apoplexy, for they seem to me rather to promote than prevent or expel apoplexies. When women labouring under the tooth-ach, by the persuasion of women, have blisters applied behind their ears, or to the neck, a disease tolerable before, increases into severe inflammation, attended with a violent head-ach which is cured by bleeding  
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and refrigerants. I have seen a person, whom a blister applied to the nape of the neck to cure a catarrhal defluxion to the teeth, thrown into a lethargic drowsiness that could hardly be shaken off at the expiration of twenty-four hours. The danger is lessened by taking away the plethora: Is it wholly removed thereby? surely, the plethora being lessened; however there remains in plethoric persons an idiosyncrasy which very easily excites a momentum and phlogosis again. Peripneumonies and pleurifies when the patient is thought perfectly recovered, from the least stimulus, of a sudden, return with greater violence, and are attended with more dangerous consequences. I saw in the year 1757 a woman sixty years old, of a plethoric habit, very fat, seized with an apoplectic fit; after bleeding, clysters, purging, and other proper steps having been taken, the same apothecary applied a blister to her back. I could scarcely have believed the consequence unless I had seen it; hence proceeded an inflammation of the whole back, a quinsy, acute, fever, the drowsiness increased greatly, which was before going off, acute pains, a terrible

F 3                      uneasiness,

uneasiness, continual tossing about, and at length death. It is therefore far safer to abstain from blisters in the sanguineous apoplexy as it is called; and when desirous of making revulsion, after emollient fomentations, my method is to apply sinapisms to the legs or feet; and I have always found the head relieved as the legs swelled.

The best prophylactic method, which is too much neglected, is,

1st, To prevent a plethora.

2dly, To remove all stimuli which are capable of exciting such noxious motions.

3dly, To hinder the blood from being impelled toward the head, called anarropia.

The first indication is fulfilled by a slender diet and evacuations; it seems superfluous, to mention minutely the particular diet, as that is fully treated of by other writers.

Let this be the principal rules to choose the aliment from the vegetable species; let the patient's drink be aqueous and acescent, generous or spirituous wines must be entirely forbidden, and those only be allowed, which mixed with water make a grateful diuretic drink, such as Rhenish, Moselle, Aurelian wine,

wine, easily changed into vinegar, and other like wines.

It is also of great consequence to eat sparingly at supper, from which all animal food and wine are to be banished, for from sleep a plethora is generated, which it is our intention to prevent; it is therefore worse when the plethora is generated from aliments just before sleep, nor is it to be wondered at, that the vessels being turgid from a double cause, apoplexies so frequently happen during the night. For the same reason, afternoon sleep is to be carefully avoided, by which the plethora is too much increased, and which it is very wrong for people in health to indulge themselves in, both for the reason above-mentioned, as because it either adds or subtracts from the night's rest, either of which circumstances is prejudicial; therefore in general, sleep after dinner is hurtful, which the heaviness, redness of the face, headache, stinking breath, and fullness of the stomach, with which those who are accustomed to it are attacked, abundantly witness: by use those who grow accustomed to it, perceive not the present injury, but though concealed, it is not the less noxious, especially

where congestions towards the head are to be apprehended ; yet under certain circumstances this kind of sleep may be permitted. The danger of passing the evening in drinking, the danger which they undergo who labour under watchfulness from plentiful suppers, any part of which they will not retrench, and the cause remaining, endeavour to remove the disorder by opium, is readily understood. I have seen terrible cases of this kind, and have cured the same person several times of a comatose disorder that lasted two days, owing to his taking an opiate upon a full stomach, consequently the veins at that time turgid. Since a plethora is generated by sleep, those who are in danger of becoming plethoric, to whom such a state would be particularly dangerous, should carefully abstain from much sleep. But I wander from my subject.

Truly I have seen, while patients have strictly confined themselves to this spare diet, both the return of the apoplectic fit prevented, and those disorders of the head removed, which for many years had been the forerunners of the apoplexy ; nor is a failure of the  
animal

animal power to be apprehended from hence; the patients are better in health, as I have observed, and more fit to perform all the animal functions. On the contrary, whenever the quantity of blood is too great and the vital powers are too much exalted, and the vessels of the head become turgid, the pressure of the brain injures the functions of the nerves, and the animal and natural powers are destroyed. I knew a person who had suffered a pretty severe fit of the apoplexy; whenever he drank a glass of pure wine, his countenance became red, and he lost his hearing and strength. I saw a woman also, who, from taking a soup prepared from craw-fish, lost the power of sitting down on a chair: how long lived would mankind be, if they firmly believed the efficacy of consulting carefully what diet was most proper to prevent their respective distempers!

Diet is capable of answering every intention, so that the disorder is not pressing; but when the distemper has already got to an head, and danger is at hand, diet alone is not to be trusted to; bleeding is then the only anchor. I am not ignorant of what many great men have objected against this remedy,

remedy, justly observing that a plethora taken away by bleeding, is quickly generated again; but this does not in the least affect the present urgent necessity. The life of the patient is to be saved by immediate venesection; and afterwards a fresh plethora should be prevented, if possible, by a proper diet; nor is there the least room for hesitation with respect to the propriety of this practice, for in this very case, if ever, delays are dangerous; I shall select one instance out of a great number.

A robust sanguineous woman, about sixty years of age, had laboured under a vertiginous disorder above a year; I advised her only to be let blood four times a year, and to prevent costiveness by drinking a decoction of tamarinds and other laxative ingredients. For some time she followed my advice religiously enough, but deferring venesection a little longer than usual, her vertigo increased so much, as to induce her to send to a surgeon with directions for him to call and bleed her in three days time. When behold she went to bed in good health, but in the morning was found dead in her bed, in that position which physicians judge the criterion

criterion of good health. The plethora being increased by sleep, generated an apoplexy. The whole skin, and particularly of the face, was one continued ecchymosis, the blood having ruptured the vessels every where flowed also in great quantity from the nostrils. Bleeding, in all probability, would have prevented the disease, which can be the less spared in proportion as the patient neglects a spare diet. Those patients also who are subject to an hæmoptoe and generate a great quantity of blood, are necessarily to be freed from the load of blood by venesection when the vessels are turgid; for, unless the superfluous quantity of blood generated be taken away, or its generation prevented by every means, they must be perpetually obnoxious to the most terrible disorders. But attend; wise nature sometimes excellently relieves herself of the heavy burthen, by exciting an hæmorrhage; in such case beware how you disturb her.

A beautiful virgin two-and-twenty years of age, subject to violent disorders from a plethoric habit, for three years lived entirely on a vegetable diet and water, notwithstanding during all this time her menstrual discharge

charge was very plentiful, and she underwent frequent and copious hæmorrhages from the nose; nor yet was the plethora so dissipated, but she was often attacked with a violent head-ach and fainting, when the momentum of the circulation was increased by motion or warm air: at length in the beginning of the winter she was seized with a violent pleurisy, that gave way to nothing except repeated plentiful bleeding, and profuse hemorrhages from the nose. She lived the whole winter on garden stuffs, bread and water, yet was attacked again with a severe pleurisy on the twenty-fifth of March following, that required the same method of cure.

What is this power which generates such an abundance of blood? not that surely which constitutes strength, and seems to depend on the density of the fibres or stamina alone; for this young woman was of a lax, delicate habit of body. A robust man does not make such a quantity of blood, therefore the cause of strength and sanguification is different. It seems concealed amongst the minutiae of nature. Here is another instance of it. A gentleman about fifty, formerly addicted to war, and for many years subject to large evacua-  
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tions from the hæmorrhoidal veins from too great a congestion of blood, owing to an idle life, warm bathing, and too plentiful a table, in the year 1752 suffered a slight apoplectic attack, and to the best of my knowledge was cured by bleeding. The following year about the same time he lost fifteen pints of blood within two days. From this period being appointed his physician, I recommended a spare diet, almost wholly vegetable, such as his disorder required; to drink very little wine, and altogether abstain from fiery spirits, coffee, tobacco, &c. to avoid warm bathing; to keep his body open: the hæmorrhoidal discharge is periodically plentiful; he leads an active life; notwithstanding I have not yet been able to keep off the hæmorrhage quite two years: what, I again ask, is the cause of so great sanguification? I know many men, women, and children of the same temperament: is it owing to a less expiration? I knew a woman who for many years had a great discharge of blood from the hæmorrhoidal veins; innumerable remedies were tried; I recollect one, and it is a remarkable one, viz. large doses of crocus martis astringens.

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She solemnly affirmed that upon an accurate calculation, by means of a vessel of a particular size, she lost in one year four hundred and twelve pints of blood; yet is still alive, and was able to walk about. The hæmorrhoidal discharge never ceased entirely, it even continues still; such a quantity of blood is not free from danger, how can it be prevented? Although the cause of its production is not known, yet experience shows that it would be of great use to abstain from all aliments which afford much nourishment or stimulate, to drink no red or generous wines, but to live on a spare vegetable diet, drink water acidulated, to keep the body always gently open, and to use acescent purgatives sometimes, and to promote the urinary discharge by nitrous medicines. In the above-mentioned young woman the blood-making powers seem much weakened, and she who before continually complained of heat, now is afraid of cold.

Of what use then is bleeding? truly of very little. How should the taking away of a few ounces of blood remove this plethora which is not removed when a pint of blood is evacuated every day; or how should it  
stop

stop the hæmorrhage which is not to be restrained, unless several pints are evacuated? Is it of service by making a revulsion from the vessels from which the hæmorrhage proceeds? whether it acts by revulsion; or not, is a matter of dispute; for my part I believe not, induced thereto by reason, experience, and the authority of many great men. But admit that it makes a revulsion; and it therefore stops the hæmorrhage, yet it leaves a plethora, it hinders the natural cure, it does not cure, therefore it does harm; but frequently repeated, it would prevent the necessity of hæmorrhages: I grant it. If several pints of blood were taken away just before the time when the hæmorrhage was expected, it would certainly prevent it; but what does it signify whether the evacuation is made by art or nature? Besides frequent experience teaches, nor is the reason hid, that a stillatious evacuation of blood to the amount of several pints, can be borne very well, when half the quantity taken away by venesection would certainly have proved fatal; yet I acknowledge, when a spontaneous hæmorrhage far exceeds its usual bounds, nor stops when the plethora is removed, but generates inanition,

tion, venesection would be of service to check the hæmorrhage. But there is this danger attending venesection, lest the spontaneous hæmorrhage should cease returning, and venesection being deferred a little too long, some fatal disease should ensue. For so long as the customary propensity to an hæmorrhage remains, nature looks to her own preservation and expels the hurtful plethora. But when the cure of the plethora is trusted to art, there is always danger, lest through the fault of the patient or physician, some mistake should be committed, and deluded by the false hope of health, the imminent danger be too much despised. I have known those, who, though subject to excessive hæmorrhages, have, notwithstanding, attained an happy old age; on the contrary, many plethoric persons, whose health was trusted to venesection, who lived but a very short time, and died imbrued in their own blood. It is therefore safer to abstain from bleeding, unless some severe disease indicates an absolute necessity, in those habits which are accustomed to be relieved of a plethora, by spontaneous evacuations. But venesection is properly

perly prescribed when a great plenty of blood is generated, and nature excites no hæmorrhage, but the blood congested in various parts frequently threatens an apoplexy, quinsy, suffocating catarrh, or other dreadful disease. Nor would the physician act badly by his patient, if he could get nature to expel the blood by the nostrils whenever it abounds too much. For an unknown plethora often exists, and the first symptom by which it shows itself, is sometimes fatal. Hence, perhaps, scarifications of the nostrils were so customary among the antient Egyptians.

Having treated fully of the method of removing a plethora, it next remains to enquire by what methods the other prophylactic intentions are to be fulfilled. I shall be brief on this head, for by preventing a plethora, the too great motion of the humours, and their determination to the head, is hindered, therefore but little remains to be added.

And first, the too great motion is prevented by severe abstinence from all kinds of acrid food or medicine, from all liquids drank warm, which momentarily augment heat and motion.

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Secondly,

Secondly, by avoiding foul and warm air; for it wonderfully increases the rarefaction and motion of humours; from the abuse of warm bathing, I have very frequently seen returns of the apoplexy. Those who are subject to vertiginous complaints, will testify how hurtful beds too warm are, and even persons in the best state of health become vertiginous by lying too long in them, but vertigo's, apoplexies, lethargies, and other soporific complaints have one and the same origin, nor differ otherwise than in their different degrees; the same things are of service and prejudicial in them all. Beside it is to be remembered, that this caution is of great moment to remove the anarropia, which is the third indication; for in a warm bed, the head grows warmer than the rest of the body, because, from the laws of physie the air which plays about the head, is hotter than the air which surrounds the feet, and in particular respiration is hurt; for I have already observed from a fullness of the fumes, the head becomes turgid. In the first place it is of great consequence to sleep in a large and cool room, with the curtains open. For  
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I again repeat, sleep is hurtful to soporific affections, therefore the utmost care should be taken to prevent the concurrence of other hurtful causes with sleep.

Thirdly, too much motion should be diligently avoided, which agitates the whole mass of blood.

The impulse of the humours towards the head is lessened by a careful observance of the preceding precepts, and these following, by keeping the feet warm, by avoiding the hot rays of the sun, and all efforts which, by occasioning long inspiration, force the blood to the head; by abstaining from all opiates, cephalics, and spirituous medicines, which all protrude the humours afterwards; lastly, by keeping the body open; for by these means, both dangerous efforts are checked, and a plethora, heat, and fever well prevented. I have seen cream of tartar of great service in this case, a daily and long use of which produced almost innumerable good effects, and which manifold experience has proved to me to be the prophylactic remedy for the sanguineous, or, as it is called, bilious apoplexy. There are also two passions of the

mind, which frequently generate the apoplexy, and therefore should carefully be avoided or restrained, namely, anger, and excessive joy. The happiness which occasions death through sudden joy, is rare; but the occasions of anger are very frequent, and passionate persons often become apoplectic; they should therefore continually keep a guard over themselves; books are full of observations of apoplexies which were produced by excessive anger.

The apoplexy is a disease familiar to the studious, and when such persons are attacked with it, the principal prophylactic method to be observed is to abstain from hard study; for from meditation proceeds a congestion of the blood in the head, and apoplectic disorders. There is no literary person who has not experienced severe and threatening disorders of the head, which are excellently removed by immediate desisting from all study, keeping the head bare, avoiding all discourse, and sitting still. It is of great consequence to such persons to keep the head only lightly covered, to avoid warm bathing, use a spare diet, and live abstemiously. Nor ought it to be

be concealed, that coffee, with which these disorders are sometimes removed, is a treacherous remedy, and to be mistrusted, being more apt to generate than cure the apoplexy.

I have seen the distemper in persons of eighty years of age; in such cases, unless the necessity was very pressing, and death seemed at hand, I always forbore venesection, for sometimes it brings on mischiefs difficult to be remedied; but purging, and a proper diet are of great efficacy; a fresh instance of which I lately met with in a person of eighty-four years of age, who led formerly an active busy way of life, now addicted to a sedentary life, and plentiful living. During the night he was attacked with an apoplectic fit, which left an imperfect palsy of the tongue, and a slight defect of his understanding; he would not permit glysters; but as tamarinds, manna, cream of tartar, and lemon juice cleansed the intestines, the functions of his mind and tongue were restored, and his former health returned.

After the species of apoplexy which I now describe, I have seen a cough remain,

which is very hurtful, since it impels the humours towards the head ; it does not require a particular method of cure, but gives way to a vegetable diet. I have seen spirit of nitre diluted in soft liquids, prove extremely useful. All narcotics are to be carefully avoided, being as bad as poison in this particular case.

I shall now mention some few observations on other disorders similar to the sanguineous apoplexy, before I go on to the other species of this disorder.

The first, though not very uncommon, has not been hitherto described, hence frequently unknown, badly treated, and fatal, proceeds from a slight and slow obstruction of the vessels of the brain, hence languor, heaviness, weariness of the animal spirits (which are the immediate cause of muscular motion, are defective) a loss of appetite, nausea, and loathing of food from the strict consent between the stomach and head, which frequently renders it difficult to form a judgment whether the nausea proceeds from the stomach or brain ; and a plethora of the brain is often mistaken for a foulness of the stomach. The  
disorder

disorder makes its appearance by a vomiting, attended with an inordinate pulse, frequent and excessive weakness; disorders are supposed to proceed from crudities, and emetics, purgatives, and stomachics are administered; and blisters are applied with a view to procure a revulsion, and spirituous medicines to revive the spirits, and restore the strength; the disease increases, a lethargy ensues, and the patient dies. I have seen many cases of this kind: by plentiful bleeding, pediluvia, a laxative drink prepared of nitre and tamarinds, and emollient clysters, I have restrained the vomiting, removed the nausea, prevented the increase of the disease, and have at length cured the disease. I have known many die who were treated in a different manner. A person attacked with this disorder died not a great while ago, highly lethargic, to whom opiates had been administered, with what intention? perhaps with an intention of checking the vomiting.

The disease of which many die in old age is similar; after a vertigo, anxiety, and debility, they are seized with such a copious vomiting, that the quantity almost exceeds all

belief. The vomiting remains some hours ; when being appeased, the patient seems a little better, but an excessive weakness remains, and after a few hours have elapsed, either a fatal lethargy ensues, or after a slight difficulty of breathing, a hiccup comes on, and the patient dies quietly enough.

Two cases which happened very lately are instances of another disease. A man about forty, healthy, of a bilious habit, long addicted to an active and merry life, now fond of a sedentary way of life, owing to care and troubles, and perhaps using too plentiful a diet, towards the end of autumn was seized with an almost continual drowsiness, so as scarcely to hear persons who spoke to him, and was loth to return an answer, and would frequently talk delirious, being overcome either with sleep, or a most violent head-ach alternatively ; so as to be weary of life and every thing ; he grew thin, yellow, lost his appetite, became vertiginous and feeble. Being consulted I recommended,

First, a diet entirely vegetable, and for drink, either water, or lemonade, with an absolute abstinence from wine, and to eat plentifully  
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of the acid fruits, and especially plenty of grapes.

Secondly, the feet and legs to be bathed in warm water once or twice every day.

Thirdly, to take every day twelve ounces of a ptisan prepared from grafs-roots, tamarinds, and nitre; within twelve days he entirely recovered.

I was consulted by the relations of an officer about fifty years of age, robust, but addicted to sitting up late, poring over maps, who, through sorrow, fell into a kind of drowsiness, attended with a loss of memory, so that sitting, lying, talking, or walking he would fall asleep; he passed very uneasy restless nights, and forgot all remembrance of what past even but a few minutes before, and though merry and cheerful before, would now hardly speak a word in a whole day. What was the cause of this distemper? a phlogistic diathesis? what the method of cure? truly not viper broths and blisters, which a foreign physician recommended; but I prescribed after venesection (*a*) four pints of clear whey, to be taken every day, with four ounces of honey, an ounce of rob of elder,

elder, and two drachms of cream of tartar, (b) a diet wholly vegetable, composed especially of juicy garden stuffs, acid fruits, currants, and grapes (c) a severe prohibition of all fermented liquors, vinegar excepted, but to drink plentifully of lemonade, water, &c. (d) and every evening to bathe the legs in warm water. The patient being peevish and unruly, followed my advice but very imperfectly, nor would he entirely abstain from wine or animal food, or take the above-mentioned ptisan; yet used the warm bathing of the legs, and took cream of tartar, and herbaceous apozems; hence a change for the better; the drowsiness abated, his sleep returned, and he became more cheerful; but soon neglecting my advice entirely, the disorder has not yet wholly left him.

To this class are to be referred those long sleeps that have lasted weeks, and of the reality of which we have undoubted proof, and the cure whereof is clear, when they do not arise from some other distemper. By stimulating remedies they are irritated, and cured by inanition and compression of the too great motion. For when more blood  
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is received than is returned back, the parts grow turgid. Hence our attention is to be directed to lessen the afflux and plethora, for whenever that is taken away, the motion in the veins is rendered more easy, as innumerable observations prove.

Some deformed people have the vessels of the brain and head softer than natural, and from their fabric are continually exposed to more grievous disorders of the head, and are almost always oppressed with slight ones. In this case the cure is beyond the power of art, their only relief consists in observing such a regimen of life as may assist the depressed vital powers. The weak are compelled to live; from strength and robustness death.

Whenever an apoplexy, of which other species remain to be described, arises in a body without any plethora or vicious phlogosis, but being cachectic is turgid with crude aqueous viscid humours, venesection is very seldom to be had recourse to, but evacuations by all the excretories of the body, and revulsion at the same time in such degree as the strength will allow. Nor are those remedies so much commended above, which are free  
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from all acrimony to be selected; for here the motion is not so easily increased, nor do these torpid bodies easily yield to gentle remedies. I here prescribe the bitter salts, senna, rhubarb, diagridium, jallap, and acrid clysters with a view of purging, and after a plentiful diarrhoea has evacuated the superabundance of the humours, I endeavour to promote the other secretions, and at the same time to try to procure a revulsion. But stronger stimulants ought sometimes to be administered; for such is often the torpor of the brain, that being now insarcted by remote causes, that it can scarcely free itself of its burthen without assistance; in this case, blisters are extremely serviceable which stimulate and at the same time cause a revulsion, and frequently excite profuse sweats, by which I have more than once seen the disease removed when permitted to flow long enough; blisters revive the expiratory functions of the whole skin, although applied only to a particular part. In some places the country people substitute crowfoot, a poisonous plant, in the room of cantharides; but this remedy requires great caution.

caution. An application of crowfoot to the thumb, indeed, removed an intermitting fever, but from its too great irritation threw the patient into far more grievous disorders. I knew myself a Piedmontese officer who, having his thumb destroyed to the bone by an application of this kind, laboured under an ulcer of this part for several months, attended with excruciating pains. A waggoner within a few hours had the whole skin of his arm raised into an immense blister with a fever, delirium, phrensy, and gangrene and it was much as a very skilful surgeon could do to save his arm : Therefore cantharides are safer.

A woman of seventy years of age of a lax habit was seized with an apoplectic fit, which left an entire palsy of the tongue, of half the face, the arm and leg of the left side, The primæ viæ being first plentifully evacuated, blisters were applied, and by proper liquors and fixed diaphoretics, sweating was excited, which being suffered to continue for nine whole days without even her posture or linen being changed, freed the patient entirely from her palsy, and she enjoyed  
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a far better state of health than before; and her sight was so much improved, that she was able to leave off spectacles, which she had long before made use of.

Other writers have treated largely of the other assistances necessary in this case. The prophylactic method depends on two circumstances, diet and remedies. The diet should be slender, but not soft, and seasoned with spices which excite the torpid fibres and excretories unmindful of their functions. Diuretic wines deserve commendation, drank in moderation. All relaxing liquors are to be avoided. Continual exercise should be used: and the whole body rubbed with a flesh brush every day. The body should be kept open with rhubarb or pulvis cornachinus. A medicated wine prepared with bitters and diuretics is proper, which I have myself prescribed to many, and have always found to do service.

Many commend issues in this species of apoplexy; I approve of them when the first attack of the disease succeeds the suppression of an usual flux or discharge, for then an issue or seton on the same part has prevented both

both the return of the apoplexy, and has cured other disorders arising from the same cause; in other cases it has done little service, nor are those grave authors to be condemned who declare issues to be frequently an hurtful and dangerous remedy; observation proves the truth of their assertion.

A very worthy fat old gentlewoman, about sixty years of age, who had been troubled with a severe lippitude for several years, in the month of July 1758 consulted a foreign surgeon, who, upon examination, found no defect in her eyes, and the sight good. But for the lippitude persuaded an issued, which was agreed to by the other gentlemen of the faculty who were consulted on this occasion; an issue was accordingly cut in her left arm; violent pain ensued all round the part; an inflammation and an herpes soon succeeded, which quickly spread over the whole body, hitherto freed from every kind of cutaneous disorder, the lippitude grew worse. In the month of December the same year I was first applied to in order to consult about the most proper steps to be taken to restore her sight, now almost lost, and, upon examination, I found both eyes clouded with a cataract.

What

What was the ætiology of the disease? was transpiration obstructed from the irritation of the skin, and hence the cutaneous eruptions, and from the reflux acrimonious humour translated to the disordered and neighbouring parts, was the lippitude increased and the cataracts produced? The first issue being healed which had been cut in too muscular a part, and another being cut, for the patient would not permit both to be closed, by saturnine applications to the arm, and mild purgatives, together with PLUMMER'S æthiops (an useful mixture of great service to resolve viscid humours) the cutaneous disorder was cured. The cataracts only remained, which had been extracted long ago, if my directions had been adhered to. For there are many weighty reasons, why the extraction of the chrySTALLINE humour should be preferred to the old method of depressing it; and DAVIEL deserves the thanks of all honest men, who has convinced the public of its utility by numerous observations, which discovery many others now would claim; I shall pass over in silence, those which JASSIEU quotes in his dissertation on the new method,

method, MATHIOLUS an Italian surgeon, BURR LAMSWERDE recommended extraction in the last age, and in the present Ephemeris, Mery quotes other instances in the Act. Academic. of the year 1707. There is one instance worthy of notice, mentioned by St. Ives who performed this operation, nature pointing out the way of her own accord by protruding the crystalline into the anteriour chamber of the eye, from whence he extracted it with the greatest ease. But in the present case, the surgeon who was employed was ignorant of the new method of extraction, and delayed even depressing the cataract, from an old prejudice now entirely laid aside by the best surgeons. For whenever the chrystalline is found, it is very ripe for the operation.

Its opacity takes nothing from this fitness, unless, as sometimes it happens, that the opacity is softened or liquefied; but when it preserves its former consistence, it is always in a state of maturity, and as soon as all hopes of curing the cataract by internal medicines vanish, the operation may safely be performed; for if blindness is borne to no purpose for

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many years, from bad advice, there is reason to apprehend the weakness and troublesome chrystalline should excite inflammations, adhesions, suppurations, or other disorders which might render the deferred cure for ever impossible; and so while a futile maturity is waited the opportunity is lost of performing the operation, never to be recovered; many instances of which are to be met with elsewhere.

There is a species of apoplexy which proceeds from over fatness; this disorder is to be prevented by remedies, for when it has arrived to its height, it is not curable. The presaging symptoms which the illustrious VAN SWIETEN has clearly explained, often continue a great while.

A woman about fifty, very fat indeed, but free from every other kind of disorder as far as I could perceive, for above three years had been frequently oppressed with a drowsiness, and often seized with a numbness in her tongue, arms, and legs, a vertigo and dimness of sight. By a plentiful use of Castile-soap, oxymel of squills, a spare and low diet, and moderate, gently stimulating exercise, her obesity

obesity decreased, all the foregoing symptoms by degrees went off, and she was restored to her former health.

In the summer of the year 1759 in a neighbouring city, I saw a woman turned of forty years of age, almost buried in her fat, who had long complained of a listlessness to motion and a failure of memory, but for some months past had laboured under a continual drowsiness, inability for all motion, almost entire loss of memory, and in short was become foolish. Some other physicians advised cold bathing and corroborants. I was of opinion that the most powerful dissolvents should be administered. But at this time a vast sensation of heat which she complained of forbid the use of soap, but I persuaded her to use oxymel of squills with the neutral salts, and to observe a very spare, laxative diet. After some days we had reason to hope her drowsiness would leave her, but on the seventh day the patient refused to take these medicines any longer, and others were administered: The disorder soon increased to a lethargy and apoplexy.

If the secretion and distribution of the animal spirits is obstructed, or if from the strength being exhausted they are not in sufficient quantity, an apoplexy rises; which is that disease in which the sensation of the nerves ceases, and from this defect of sensation all voluntary motion; for the whole action of the nerves certainly is not abolished, but that only which is subservient to the senses, for all the actions, which are not ruled by them (in the schools, called *vital* and *natural*) remain. But from the obtusion of the senses, the impulse of the soul on the body ceases, and the motions, which that rules, cease also. The circulation remains entire, whose cause is beyond the province of the soul; respiration is sometimes injured, both from a suffocating catarrh, which often accompanies the apoplexy, as also from its being partly mechanically necessary, and partly subject to the will of the soul. Whether is the sagacious hypothesis, not without experiments, proposed ten or twelve years ago, by my friend the illustrious ZIMMERMAN (who suspected that the nerves receive their sensation from the animal spirits, and their power of

of motion from the innate force of the solids) to be admitted here? Be this as it may, the apoplexy is understood to proceed from a defect of the animal spirits; of this kind is that which in long illnesses suddenly kills, especially in those disorders which entirely dissolve the blood; in the jaundice, for instance, I have sometimes seen it myself. And those which sometimes take off persons fond of physic, who, by continually taking medicines, hasten death, which they endeavour to avoid. Lastly, that which attacks extreme old age, or those whose constitutions are broke by long trouble.

A different method of cure is to be made choice of in this case; the crasis and plenty of the humours is to be restored; and the languid vital powers are to be excited; all evacuations therefore are to be avoided carefully, and the cure attempted by corroborants and nutritives; eupeptic aliments, that afford a great quantity of nutriment, are to be taken frequently in small quantity at a time.

There is a species in which abdominal obstructions, by which digestion has been injured, and nutrition prevented, have gene-

rated the weakness. I have seen this species in women who have not attained the first limits of old age. The strength is to be supported with a prudent hand, and the obstructions are to be resolved. The bitter gums and plants are of great service in this case.

SYDENHAM has very properly enumerated the apoplexy among the symptoms of the hysterical disease; I have frequently seen instances of it. It is generally a slight disease, provided it is not increased by the error of the physician. It is every day cured by frictions of the whole body, aromatic epithems, and strengthening antihysterical liquids; it is prevented by corroborants and exercise; and is very often excited by the passions. Is it therefore free from all danger? no. For the hysterical disease occasions death, though many laugh at this distemper; DE HAEN gives a remarkable instance of this kind, and I have seen two myself.

A beautiful young gentlewoman who had had a favourable kind of Small Pox some months before, as I was informed, which she easily got over, and was purged several times  
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after the disorder, from that time had been subject to hysterics, and particularly for about two months had complained of a violent head-ach, and was low spirited. A skilful physician who cured the former disease being slighted, she was put under the care of an empiric who had formerly gained some reputation, who hoped to cure her by various evacuants, and refrigerant remedies; but the attempt was foolish and unsuccessful. She grew worse, and at length with a violent head-ach lost her speech of a sudden, pointing to the pained part with her finger. Two hours before her death, when I first saw her, the face was red, the pulse irregular, intermitting, and very small, a prodigious anxiety, and she died suddenly. The parents consented to have the head opened; I was present; not the least defect was found. Had the breast been opened, would it have discovered any morbid appearance? The following observation seems to prove that it would not.

In the same year the menstrual discharge was stopped through fright in a young woman of eighteen years of age, and from this

suppression she laboured under frequent faintings, which a surgeon who then resided here endeavoured to cure by various means. At last, after having being tormented for six or seven months with innumerable complaints, she was seized with a profound lethargy, which all endeavours to shake off proved ineffectual. Having tried almost every thing to no purpose, the parents applied to me on the third day from the attack of the disorder; I found her asleep, and not to be awakened by any kind of noise or irritation; as it is customary with me in like cases, I directed her to be kept quiet; after twelve hours were expired she awaked well, though very weak; weighing the case accurately, and finding no local disorder nor any fever, I prescribed corroborants joined to antihysterics. This advice succeeded to our wish; but from a new fright after some days she was attacked with such anxieties, attended with a most violent head-ach, continual nausea, and such dreadful convulsions of the limbs, that I hardly ever saw worse. I first endeavoured to lull the ferocity of the disease by a single dose of opium, and then by degrees I conquered it with

with the remedies before-mentioned; but her constitution being broke, and spirits exhausted by long illness, and especially by medicine, but little hopes were left of a perfect recovery. While she was eating a faintness came on, and she died within a minute. Her parents gained by money permitted the body to be opened. I found the heart rather larger, softer, and paler than usual; perhaps from frequent venesection? In other respects I never saw a body more sound and free from all kind of defects. Who can explain the immediate causes of death in these two cases, and those related by DE HAEN? Does it arise from the deficiency alone of animal spirits? But persons live a long time far weaker than these patients were only a few days before their death. Or does death proceed from a palsy or convulsion of the heart? Indeed all the muscles of hysterical women are very easily and very frequently relaxed and convulsed, why not the heart? I shall therefore believe this to be the case, until I am better informed: I own the theory of nervous disorders is as yet very obscure, but by degrees we shall attain new lights, and I hope all these clouds will

will be dispelled by a dissertation on hysteric and hypochondriac disorders, now preparing for the press by the celebrated ZIMMERMAN.

How much terror depresses the spirits and strength of weak persons is scarcely to be credited; out of many I shall quote one instance: A pregnant woman had an uterine hæmorrhage, which I fortunately restrained, and being near her time of delivery, seemed to promise certain hopes of her health being re-established; for her spirits seemed good, and the hæmorrhage had entirely ceased for several days. Being prodigiously terrified, she was seized with a fainting fit, and upon coming to herself grew delirious, with an entire loss of strength, which, by proper medicines and diet, I had a little recruited; the next day a fresh and trifling flooding came on (in comparison with those she had several times before this fright sustained without injury) and carried her off within an hour. And why not death from the nerves? If the smallest ramifications of the nerves are inclosed in a ligature, or nerve laid bare is gently irritated, the whole animal œconomy is disturbed; but the nerves may be affected by several disorders more than by a ligature, or the

the gentle stimulus used by the observer.

I now proceed to the palsy; I shall first briefly consider the use of smoaking tobacco, which is commended by a modern writer, as a prophylactic remedy for this disorder, and the apoplexy, lest a very bad prejudice should gain credit.

Smoaking tobacco first began in Europe about the year 1560, through the persuasion of a Dutchman returned from Florida, and recommended by JOHN NICOTIUS, the French legate of Lisbon: an acrid salt and a fiery oil, impregnated with a narcotic sulphur, abound in it. The salt stimulates the salivary glands, and promotes a discharge of the saliva, with the assistance of heat, the stomach is also irritated, hence it occasions vomiting in persons unaccustomed to its use; the intestines also are irritated, hence persons unaccustomed to it have frequently a profuse diarrhœa, and persons accustomed to its use a stool every day, which is supposed to be a useful circumstance. By its bitterness and laxative quality, it is *perhaps* good against the tenia and other worms, for we have no certain instances of this virtue.

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From the same principle proceed four bad qualities.

First, A waste of the spittle, and in consequence thereof, all the diseases which it generates; for smokers, though they spit plentifully while they are smoking, are observed not to spit at other times, nor is this strange, for the stimulated organ (the stimulus being removed) ceases its action, and hence frequently a dryness of the mouth, which induces too plentiful drinking of liquors.

Secondly, From the frequent irritation, the stomach and intestines are debilitated, the appetite spoiled, the spirits exhausted, nature grows sluggish, and ceases to act unless stimulated.

Thirdly, An acrimony is imparted to the humours.

Fourthly, If smoking induces too plentiful drinking, here is a new fountain of diseases, various according to the various liquors, but always fatal.

By the narcotic principle, the disorder of the stomach is increased, and congestions in the head, head-aches, vertigoes, anxiety, lethargies, and apoplexies are generated; in short all the effects of opium, as the great

BACON,

BACON, Lord Verulam, has long ago observed: *Tobacco, the use of which is so highly esteemed in this age, is a kind of benbane, and manifestly disturbs the head like opium.*

It is therefore plain how erroneously, nay hurtfully this smoak is used, with a view of preventing the apoplexy. I have known many, and have read and heard of many, who were seized with an apoplectic fit at the very time they were prophylactically smoaking tobacco, and have thereby too well experienced the power of this remedy to bring on the apoplexy. I never remembered a smoker live to a great age; DE HEIDE, a learned physician, was killed in the flower of his age by being too much addicted to smoaking; and all the disorders are well known which grave authors relate to happen both from smoaking, and after smoaking. HELMONT TULPIUS, and many others, the apoplexy. The German Ephemerides, the epilepsy. DE HEIDE and TULPIUS, dangerous disorders of the breast; BORELLI, the jaundice; VAN SWIETEN in general, dangerous diseases of the liver; WERLHOFF, the gout; HALLER, consumption; other authors, different disorders

orders. I am at present witness to a person's having been tormented with a most violent head-ach and burning dryness of the mouth after the abuse of smoaking tobacco with an intention of curing the tooth-ach, which was cured by refrigerants, and leaving off smoaking by my advice.

Is it therefore of no use at all? Certainly, taken in great quantity it hurts every one, and every where; nor do some instances in which the bad consequences have ensued, but very slowly, prove the contrary; for by use we become accustomed even to poisons, the machine perishing gradually, not of a sudden,

Moderately used in lax moist habits, if sucked through a long narrow pipe, to which experience teaches us the oil loaded with a narcotic sulphur will adhere, sometimes usefully irritates, by its saline stimulus the salival glands, and sluggish peristaltic motion of the intestines, and thus is related to have cured some disorders from a redundancy of serosity: It may have restored the tone of the relaxed salivary glandules by the addition of its stimulus, as acrid substances sometimes

sometimes restore the stomach when relaxed and thus may have checked an habitual spitting. Passing with the air into the bronchia it may have relieved those, who were become asthmatic from a congestion of mucus in the lungs. I also at this present time read an instance of its being serviceable to very fat people; whether perhaps by lessening the appetite, or by stimulating the languid fibres. It sometimes, according to HOFFMAN, speedily cures violent cholics, whether by lulling the pain, or by purging, the author leaves us in ignorance.

Smoaking of tobacco is therefore to be cautiously used; it cannot be denied but it has sometimes been of service as a remedy. A daily use of it is almost always hurtful.

Nor is Snuff-taking free from its particular inconveniencies; for it irritates the nerves, and possesses scarce any other virtue; for I am at a loss to know what good arises from the nerves being irritated in an healthful body. The most robust, if they addict themselves to it too much become vertiginous. I have seen weak persons] not only vertiginous, but anxious and faint from

from using it. Innumerable instances may be given of women of a delicate habit, whom a single grain of snuff taken fasting has thrown into hysterics. Lastly, from the repeated irritation, not only the faculty of smelling is lost, but a general torpor is generated, scarcely to be shaken off. Does it debilitate the memory as is generally supposed? late observations seem to prove so. It is said to cleanse the nostrils, so it does, truly, under certain circumstances, but otherwise it constricts them. Nor is this flux from the nostrils to be much commended, which may rather be called morbid, which persons in the most healthy state are free from, and the infirm are troubled with. Has it not been of service in the tooth-ach sometimes, from its irritation? Chewing of tobacco, which promotes a large evacuation of serous fluid, seems most likely to succeed, and thus BORELLI relates he cured a certain fat person.

I propose next to lay down a few precepts concerning the palsy, which so often accompanies, follows, and precedes the apoplexy. The ætiology of this disease is easy. It is demonstrated

demonstrated by physiological writers, that when a part of the encephalon is compressed, that part of the body is deprived of its motion and sensation, which receives its nerves from the compressed part of the brain; the compression of the medulla spinalis also deprive these parts of the body of their motion which receive their nerves from it.

It is likewise known that the serum stagnates in the compressed parts ; for the arteries bring more than is returned by the veins ; therefore after the apoplexy, or before (for the cause may exist long before the disease makes its appearance) as I have already observed, at the same time, when from the compression of the brain the senses or muscles of the face are injured, the serum which stagnates in the ventricles for want of being absorbed, flows to the basis of the brain, or the spinal medulla, and, according to the part it compresses, obstructs various motions.

Thus appears what is a total, and what a partial palsy; why sometimes the organ of sense, sometimes the muscles, are affected, and lose the power of performing their functions. The limbs are affected whenever the

the spinal marrow is compressed, and it may be compressed by a humour distilling from the brain, by an infarction; a fracture or luxation of the vertebræ, or any other disease of the bones within which it is contained. I was lately consulted for a girl, who, from an ulcer in her back, laboured under a palsy of the thighs and legs; they were entirely destitute of all voluntary motion, but were sometimes agitated with convulsions. I did not see the patient, but I ventured to affirm that the ulcer and palsy both arose from a disease of the vertebræ, by which the medulla was compressed. If from any cause (and many may happen) an irritation is produced, then convulsive motions ensue. Another physician advised bathing.

I was of opinion that it was entirely a surgical case.

That kind of palsy which proceeds from an injury of the spine, is a frequent distemper; every one is acquainted with the observation of GALEN concerning a palsy of the fingers, from the neck being covered with a wet cloak. I saw in the year 1750, a young lad of fourteen years of age, lying in

in bed, having lost all power of motion from his chin downwards, and only capable of moving his head, tongue, and eyes, being struck with a true paraplegia two years before, the cause whereof was thus related to me; As the boy was digging sand in a pit, a mass of concremented earth fell from the top of the pit accidentally, and pitched upon his neck; he immediately fell down senseless, nor has been able ever since to move his limbs. A surgeon who examined him could find no luxation or fracture. A bricklayer in the year 1758, from a fall, the force of which principally fell on the region of his kidneys, was immediately seized with a palsy of the bladder, thighs, and legs, yet without any fracture or luxation of the vertebræ. I know many other instances of this kind, which it would be superfluous to relate.

But it explains the theory of convulsive and paralytic disorders excellently, since, as physiologists maintain, it demonstrates beyond contradiction, that convulsions proceed from the irritation of a part of the brain, or spinal marrow, and palsies from a compression of the same parts.

The palsy is therefore the same disease as the apoplexy, and indicates the same prophylactic method of cure. There is a point in the nerves, in which the cause of a palsy of the parts which receive their nerves from this particular point, may not reside, and every nervous point may be considered as a brain with respect to the inferior parts.

Hence how many palsies; how many paralytic disorders; how many distempers incurable, since their cause is not even suspected; hence, those weaknesses and debilities, almost paralytic, which are often observed in acute and chronical cases, are clearly understood.

Their cure depends on what has been already observed. We must endeavour, by diminishing the motions in the arteries, to increase the motion in the veins, and restore their absorbent power, that the humours with which the parts are prejudicially turgid, may be thus evacuated. For whoever attentively considers the structure of the vessels, will scarcely doubt that all stagnations have their seat in the cellular membrane, or the veins. For the whole arterial system is a diverging tube,

tube, the diameter of which, the farther it extends, the wider it becomes. On the contrary, the venal system is a converging tube, the diameter of which is contracted as it passes along.

The cellular membrane is a vessel wholly passive, and has no power of its own, in which the deposited humours would stagnate eternally, unless they were removed by venal absorption, forced by their own weight, or the impulse of the neighbouring parts to creep on by degrees: therefore motion is easy in the arteries, and difficult in the veins, from many causes, and scarcely any in the cellular substance. Hence the veins, or cellular substance, are the seat of stagnations, obstruction, and inflammation, agreeable to anatomical observations.

I have known many talk of infarcted arteries, and truly they have their obstructions, but both theory and accurate observation agree, that the veins are more frequently obstructed. I saw an instance of this kind finely in the body of a man who had died in four days of a most acute disorder, as it was foolishly called; the veins and cellular coat of the stomach were turgid with blood, while

the arteries were almost empty, which, by a rude mechanism, I distended with air. From the blood extravasated into the whole cellular membrane, the whole stomach resembled a purple mass, which was covered by a black veiny network. The disorder was certainly an inflammation of the stomach. I have observed the same circumstance, but less universal, in the bladder, and observations of this kind would occur every day if dead bodies were more frequently permitted to be opened. The obstruction being wrongly supposed to be seated in the arteries, we anxiously seek why after death, the greatest part of the blood is found in the veins. The solution of this difficulty is easy; it generally is there before death.

The ancients well knew, though from a false theory, that the seat of inflammation was in the veins; or as I should imagine myself, the seat of inflammation being observed to be in the veins, generated the false theory long ago exploded by GALEN, that the blood circulated in the veins, and air in the arteries. Why was the true opinion deserted by the moderns, and the seat of inflammation asserted

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ed to be in the arteries, which the illustrious HALLER has proved to exist in the veins?

But obstruction alone does not produce inflammation; what more is required? An excited vital power in the part. But what is the vital power? That I shall soon explain when treating concerning nature.

Nor is there only one species of vascular sanguineous obstruction; I have elsewhere mentioned a chronical inflammation; there are many species, known only to those who attend the sick. I saw a man, from an anomalous gout, within two hours swelled with a tympany; nor is such a sad metastasis uncommon; I have myself seen such several times, sometimes slight, at other times dangerous; and I knew a wine drinker killed by one within three days. Pregnancy, in its early period, frequently imitates the tympany, with acute pains, and intolerable anxiety. I have seen in the sixth week the belly larger than usual at the time of delivery, and so tense as to excite exquisite pain, the violence of which was increased by the gentlest touch imaginable, the whole skin from the scrobiculus cordis to the pubes was as black as a coal.

The superabundancy of the humours being lessened, the discussion of what is stagnated, and the resolution of what is concreted, is to be promoted; yet in some cases a spare diet alone, and afterwards a gently stimulating medicine may answer every purpose; and the method of ALBIUS pleases me very much, who cured paralytic patients by an attenuating and inciding diet, and water for drink. I knew a poor woman of seventy years of age, who, from an apoplectic fit, was seized with a palsy of half her body, cured in a year's time without any other assistance whatever than a very spare diet, which her circumstances obliged her to observe.

But diet proving insufficient, assistances are cautiously to be selected, nor should it be forgot that an apoplexy is always at hand, and it should always be considered what kind of this disorder preceded the palsy; if it was preceded by an apoplectic fit, if not, what kind of apoplexy is to be apprehended. For this consideration is the sailor's compass, which will safely show the physician what is proper to be done.

A man

A man fifty-six years of age, robust and active, who had suffered several severe attacks of the vertigo some years before, in the spring of the year 1760 was seized with a numbness, nay an absolute palsy of the three last fingers of his right hand, but slight, and which vanished of its own accord in a few hours. His physician prescribed an infusion, in the manner of tea, of rosemary and sage to be taken twice in a day, with a spoonful of spirit of cherries; the same complaint frequently returned during the use of this prescription, and he experienced a fresh attack of the vertigo.

But happily the excited humours were not determined to the brain but kidneys, and a most severe nephritis came on. Being consulted, I advised to expel the disease by the most powerful refrigerants, and to avoid all aliments and remedies of the stimulating kind, as carefully as poison, and especially all cephalic herbs and spirits. He followed my advice, and from that time has been entirely free from the vertigo, palsy, or any other disease whatever. From a longer use of heating remedies, he would have soon died apoplectic, or dragged on a miserable life, paralytic.

tic. For the custom of attempting to cure all paralytic cases by stimulants is fatal, and deservedly to be blamed, since the cause of the obstructed motion of the muscles is generally a plethora of the vessels. I have known indeed bleeding very frequently prescribed, but soon, as if sorry for the good that had been done, such medicines administered as destroyed the good effects which phlebotomy had produced.

These circumstances being premised, I shall briefly consider three remedies, which are too indiscriminately used in all paralytic cases every day. Warm bathing, so highly commended, first offers; but it rarefies the humours by its warmth and stimulus; it increases motion, and thus generates a fever and plethora; there is therefore reason to apprehend its occasioning an apoplexy; and whoever has observed a person in a warm bath, cannot be ignorant of all these circumstances. I saw in the year 1747 a student of physic, who out of a joke would go into the warm bath, when he remained some time in the water, though advised to the contrary, upon his coming out of the bath, he complained  
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of a violent head-ach and giddinefs, which did not entirely leave him the next day, and after the expiration of two hours, rifing from bed he reeled in fuch a manner, as to be forced to fit down. His face was red, his eyes turgid, his pulse febrile, his refpiration difficult. From a longer immerfion, he had, in all probability, died apoplectic. I myfelf ftaying a little too long in a warm bath, had my whole body fwelled, and became vertiginous during an whole hour. Well attested obfervations acquaint us, that fome have died in the warm bath, others in the fwearing room, or foon after their coming out; therefore fuch a remedy is to be cautiously ufed, though in many cafes I allow it to be of extreme fervice; for a cloud of paralytic perfons have recovered their health, and the ufe of their limbs by the affiftance of the warm bath; but an equal number by going into the warm bath have rendered their diforders worfe.

My country men having no neighbouring warm baths frequently make ufe of a bath of fermenting wines, but moft frequently without great fuccefs; yet I have fometimes  
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known it of service. A shoemaker during the heat of summer, being hot with walking and all over in a sweat, walked through a river, the water of which reached as high as his reins, in order to cool himself. In the night all the parts which had been wetted were seized with a violent pain, which he bore some days without endeavouring to procure relief; soon after, from a foolish advice he took hot diaphoretics, and applied spirituous fomentations to the parts affected; the pains became more violent, his fever increased, he became delirious, and was seized with a suppression of urine. Being sent for, I stilled the fever, removed the delirium, suppression of urine, and pain, by bleeding and an antiphlogistic diet, clysters, and emollient fomentations; but such a prodigious weakness of the legs remained, that he could not rise from bed, nor did the bladder, which seemed to contract itself with difficulty, entirely recover its tone. I recommended frictions, with aromatic wine, and a plentiful use of the decoction of the five aperient roots sweetened with syrup of marsh-mallows. Being sent for again after some weeks, I heard that all  
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my prescriptions had been laid aside, and the whole work trusted to nature, oppressed with a bad diet. The patient had a true palsy of the thighs and legs. The circumstances and disposition of the patient would not allow a long course of internal medicines; the season of the year afforded an opportunity of trying the fermenting baths of the vintage: I was desirous of seeing their effects in a disease, the cause of which seemed seated in the external parts. The patient was buried in the baths up to his navel. The first four bathings excited a fever, and afforded no relief. After the fifth, a fever arose also, but was followed by a profuse sweat, which entirely cured the patient. The power of this remedy depends on its heat, and a kind of subtle penetrating vapour, that arises from fermentation, affects the nostrils, and gently stimulates the vessels.

Viper-broth was long a secret all over Europe, and still continues so in some countries, a medicine supposed capable of curing the most desperate palsies. This error proceeds from the same origin as those which I have already confuted, that false principle  
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that those things which increase motion, remove the palsy; and truly in this respect they deserve commendation. Their virtues are as follow; they increase the circulation, often excite a fever, force the humours towards the head, rarefy the blood, generate an alkalescency, and a troublesome heat in the body, and so increase irascibility, that I have seen persons using them continually seized with fits of anger, a fever, and congestion in the head. They altogether deserve the same blame which I have attributed to craw-fish soop, and in a word, their effect is, when long used, in a sound body, by an unavoidable fate, certainly to generate an apoplexy. Let their encomiasts now show how they can deserve the title anti-apoplectic. They can only be of service when the disease arises from a deficiency of good humours, and the blood is become mucous, vapid, and acrimonious; in such cases I have seen good effects from them; yet I faithfully affirm, that medicine would not be in the least impoverished, if vipers were entirely expunged from the materia medica; whatever can be expected from them, many other medicines are capable

ble of performing; and where resolvents or stimulants are required, water cresses, and such like antiscorbutic herbs, ferulaceous juices, and decoctions of the woods, as they are called, or of the five aperient roots, perfectly answer the intention.

Another remedy has been vastly cried up within these seventeen years for the palsy, I mean electricity; which nearly about the same time, and without the least communication with each other, CRUGER, KRATZENSTEIN, KLEYN, my ever-respected preceptor in experimental physics, JALABERTUS and SAUVAGES, and many others suspected might prove useful in paralytic cases, and demonstrated it by experiments. This noble discovery being soon spread abroad found patrons every where, and from the year 1747 to the year 1756 all Europe attempted the cure of paralytics by electricity, and its power was experienced in almost every city, but with very different events.

These so different observations leave but one method of judging the efficacy of electricity in the palsy, namely, by repeating its general effects from the accounts of observers, and

and comparing them with the indications which the palsy offers. I shall mention them very briefly.

First, It renders the pulse quicker; and various observations compared together render this rule certain; if the pulse, before electricity, in a given time, was found to beat five strokes, after electricity, it beats six strokes in the same space of time.

Secondly, It increases the heat and plethora.

Thirdly, It constantly excites expiration, and frequently various other evacuations, as the alvine, renal, &c.

Fourthly, It excites various hæmorrhages, and especially of the nose, as WINKLER himself experienced; and I have seen a very violent hæmorrhage of this kind.

Fifthly, A pain arises in the part where the stroke is received, the skin is hurt, and involuntary action of the muscles is produced and in an heart taken out of the body its irritability is more powerfully restored than even by spirits of vitriol.

Sixthly, The shock produces a violent convulsion, and is followed by a weakness of  
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of the head, a vertigo, uneasy, disturbed convulsive sleep, as I have often experienced myself, and have known many others experience also.

Seventhly, A lassitude and weakness invariably follow the spasm and fever.

Eightly, Respiration frequently continues difficult.

Ninthly, An universal palsy, and of the extremities, has been observed, that proved fatal to OPELMAYER; and paralytic kind of death.

Tenthly, It kills as suddenly as lightning.

Eleventhly, Bodies opened after long electricity have exhibited the vessels of the brain dilated and turgid with blood.

Twelfthly, Electricity applied to animals has excited violent convulsions, convulsive rigidity, involuntary evacuations, palsies, anxieties, a frothing at the mouth, a cessation of the motion of the heart, and sudden death, with an effusion of blood in the breast and brain.

It hence appears, pardon the expression, that the principal effects of electricity are

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febrific, convulsiferous, and plethoriferous. It forces the blood to the head, and of consequence excites or increases the palsy.

What then are its uses in the palsy? they appear from what has preceded. A fever and plethora, which are capable of renewing, the disease, frequently do harm. Spasms are almost always to be dreaded, for they disturb the circulation, the equability of which is the fountain of health, and they are frequently followed by paralytic complaints. Electricity is therefore not to be used indiscriminately in every palsy, but only when we have no reason to apprehend the bad effects of a fever, plethora or spasms. And now we see why the effects of this remedy are so various, why commended in one place, blamed in another, has been serviceable to some, and in different circumstances has hurt others. But under the management of a skilful physician, it has its uses, and is a noble remedy, and deserving to be retained in practice, because then only applied when proper; hence the great success this remedy has been attended with in our hospital; but it is wrongly cried up as a specific for the palsy,

palsy, as CAMPER sagaciously observed in the year 1746, *It is probable that the effects of electricity are unfriendly to the nerves.*

We read of its having been found serviceable in the palsy that painters and gilders are subject to, nor is this to be wondered at, for this is a disease from a torpor excited by a stupefactive poison; and the spasms seem likely to shake off the disorder. In all probability it would succeed in the palsy occasioned by taking sugar of lead; in both cases there is no fever, plethora, or defect in the brain; in many other kind of palsies it will prove prejudicial. It preserves its character in those temperaments which are at the same time lax and free from irritability. I have often observed such temperaments in those unhappy children who are born deaf, and with but weak understandings, after all other methods have been tried in vain; can electricity do any thing in this case? It certainly is right to try.

I shall add only one observation more. A friend of mine, a skilful architect, for many years had a small tumour on his neck, which from the warmth of the bed became extreme-

ly painful. Residing at Paris, he got himself electrified by BLONDEL. After two hours had elapsed, a humour began to flow from his nostrils, and continued to discharge itself without intermission for the space of twenty-four hours, then remitting a little of its violence, it continued some days following. The quantity of fluid evacuated is scarcely credible. The tumour vanished, and has never returned since.

The effects of electricity and anger, in the palsy, are, perhaps, not unlike; electricity restores their strength to many paralytics, from others, it entirely takes their strength away; the effects of anger are the same. GABRIEL, the son of BACTHUYS, lately cured a paralytic young woman by a modest passion; faithful observations relate the like event; others, that palsies have arose from anger. I knew an elegant young lady, who, when six years of age, from a violent quarrel with one of her play-fellows about the colour of a ribband which fastend the cloaths of a doll, was suddenly seized with a palsy of the tongue and her left-arm Her speech was restored well enough after some years,  
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but her arm still continues paralytic. Could the cure be safely attempted by means of electricity? I should hardly think so, for I am afraid of its injuring plethoric, acrimonious, soft, irritable temperaments, nor ought a few exceptions to the contrary to infringe the general law. I saw very lately a very healthy young countryman, who, being in liquor, from violent passion, was suddenly seized with a palsy of the thighs and legs; and after a few days, his brother observing a serpent creeping along close to his arm while he was asleep, struck his arm pretty hard, in order to shake off the animal, from that very time he was very frequently in a day seized with such a violent convulsive motion in that arm, as could not be restrained by any means whatever. The utmost that art could do was to prevent the hand from striking against the face, which it might injure, or against any hard body, by which it might be injured.

But while I am treating of electricity, suffer me to propose a question. How do the patrons of the soul being the universal moving power, explain the manner in which the

celerity which it adds to the circulation, is excited in the soul?

Having fully considered the palsy, in which the animal motions are injured, I shall next treat of the dropsy, which generally proceeds from the languor of the vital powers.

# PRACTICAL OBSERVATIONS

## ON THE

# D R O P S Y.

**T**HE cellular substance, so accurately described by HALLER, as to seem almost a new discovered part in the human body, and the cavities, are the seat of various dropfies. The ascites, the dropfy of the thorax, one species of the hydrocephalus and dropfy of the womb, are species of the dropfy in cavities ; all others are diseases of the cellular membrane.

The body of a young lad who was executed afforded a very extraordinary spectacle. The membrane which lies between the integuments and the pericranium was equally distended to the thickness of three lines, with a water very faintly tinged, red, and clearly showed the first species of the hydrocephalus, and dropfy, and at the same time exhibited the true structure of the membrane, whilst the eye excellently distinguished the cells, and

the fluid, by gentle pressure with a soft piece of linen, flowed freely to and fro; so that at pleasure I could empty one part, and cause another to become turgid; but at length by a little stronger compression the membrane being too much distended, cracked about the middle of the lower part of the last temporal muscle, and the whole fluid making its escape, the membrane remained flaccid. But upon being inflated with air from the hole, through which the fluid was evacuated, an emphysematous tumour arose larger than the former oedematous swelling; but the cellules soon bursting, and the air making its escape, the tumour collapsed. A painter might with great ease have taken a fine view of the external vessels of the head from this body.

The manner in which dropfies are generated, is therefore easily understood, especially by consulting DR. HALLER'S physiological works, which the more I consider, the richer I become in practice; whence I am the more confirmed in my opinion, that he is the best physician who knows the theory of physic most accurately; but practice is necessary

cessary also ; if it is helped by theory, it in its turn assists theory, and they are both happily joined together. The physiologists would do ill who did not practise and read the works of practitioners, from whom I with joy see the learned HALLER collect so much in his physiology ; for nothing throws greater light on the mechanism of the animal functions, than accurate examination of the causes by which they are injured, and the symptoms which follow these injuries. Who, to mention a single instance, could understand the physiology of the liver and bile, if he had never observed an inflammation of this viscus, a schirrus, jaundice, gall-stones, and cholic, from its being obstructed. If any doubts can remain, every one may rid himself of them by reading the physiologies of GALEN, BOERHAAVE, and HALLER, which help the practitioner in the most dangerous and difficult cases, while in so many other physiological books there is not the least connexion between theory and practice ; and hence GALEN has well advised the physiologist, *learn from physicians, unless you yourself practise physic.* But to return to my subject.

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The porous arteries in their whole tract suffer some aqueous and pinguious parts to exsude through their membranes in an healthy state, as is discovered by injections.

Besides, of the numerous arterial exits, some empty themselves into cellular, others into larger cavities, and the fluid deposited either way is taken up from those receptacles by the absorbent power of the small veins, by that capillary power in living animals which NICOLAUS AGUNTIUS, formerly the celebrated pupil of GALILEO, first taught, that the lacteal vessels absorbed the chyle from the intestines.

Therefore whenever more aqueous fluid is discharged into the cavities or cellular substance by the veins, a congestion of water, or dropfy ensues.

The general causes which may obstruct this return by the veins are, first, some obstacle which presses the venal trunks alone; thus from a ligature of a vein in the well known experiment of DR. LOWER, proceeds a dropfy of the parts from which this vein returned the blood, for when the trunk is not emptied, the suction of the branches ceases.

Secondly,

Secondly, An obstacle which presses both artery and vein with equal force; for the artery being stronger than the vein is less obstructed, and continues to carry forwards the blood, which the vein does not return back in equal quantity. If both artery and vein are tied with the same ligature, a dropsy of the parts arises, as in the former experiment, but not quite so soon.

Thirdly, A remission of the powers, by which the blood is removed; for the arteries deriving their motion from the heart itself, and being endued with a greater power of their own, while the least remains of that power is continued, transmit the blood to the veins; but the motion of the blood grows slower in a greater proportion in the veins, where the other helps of circulation are wanting, and cannot take away in the same time the blood which the arteries have brought hence, for instance, the dropsy, which is the consequence of a sedentary life.

Fourthly, That the capillary suction may succeed, some proportion is required between the vessels which absorb, and the liquor to be absorbed, which if deficient, motion ceases;  
but

but many defects of the veins may obstruct this suction. (*A*) a collapſion from too great laxity (*B*) a diminution of the vis vitæ, for as if it is wanting in a branch of a tree, the motion of the nutritious juice ceases, ſo in the veins from a weakneſs of the vis vitæ, the circulation becomes tardy. But what is the vital motion of the veins? Is it irritability? The experiments of the celebrated HALLER prove otherwiſe; but are not many phenomena in the human body placed beyond the province of experiments, to be demonſtrated by the chaſte laws of analogy? Are we to have recourſe to the fibrillary motion, which ROGER very ingeniouſly and learnedly endeavoured to ſupport? Many and weighty circumſtances forbid our aſſent to this; but I ſhall not enter farther into diſcuſſions of this kind, for, with TULLY, I think the events of things ought rather to be *ſought after than the cauſes*; and am contented with this, *that though I am ignorant how every thing is done, yet I underſtand what may be done.*

I take no notice of other diſorders of the veins, ſuch as callous ſpaſms, inflammation, &c. the fluid canal is not free from them, which, ſo long as acted on by the impelling power, does

does not cease, unless the disorder be very violent, but absorption is easily disturbed, for it does not admit any thing viscid, and acrimonious fluids, which by irritating constrict the mouths of the veins, it excludes; for, as HALLER observes, *The whole human body is so formed by the all-wise Artificer, that the small sphincters of the absorbent veins contract themselves at the contact of any acrimonious particles, nor will admit the least drop of the hostile fluid.* Thus, from an acrimonious humour deposited on the intestines, the lacteal vessels absorb nothing at all, and this is often the cause of obstinate fluxes of the belly, is this the cause of those dropsies which are accompanied with violent pains in the belly? Yes certainly. Is the question to be thus answered, why bleeding and opiates have sometimes been serviceable in a dropsy of this species, and sometimes done harm, as PORTE relates in his diary of medicine? The account itself leaves the matter doubtful; for in the same symptoms as it seems, they were as prejudicial in the beginning of the disease, as they proved useful latterly. Did not the cure perhaps proceed from some hidden

den cause, independent of the remedies.

An acrid stimulus, which, applied to the mouths of the veins, closes them, by irritating the extremities of the minutest arteries, forces them to a quicker and more copious evacuation; therefore, from a double cause, the congestion of the aqueous fluid is increased, the afflux being greater than usual, the reflux less. Is not the action of vesicatories hitherto obscurely accounted for, thus explained? Applied to different parts, they produce a swelling, whether from the veins being constricted by the inflammation of the skin? By examining carefully all known, nay all possible kinds of dropsies, we find none which do not arise from some one of the before-mentioned causes, and hence we learn whether, when, and how each may be cured. The first and second causes require the removal of the obstacle; the third requires corroboratives; the fourth (*A*) the same; (*B*) and also a specific, which would be of more value in medicine than the numerous remedies hitherto discovered; but while this is wanting we must use corroboratives

tives, and especially the Peruvian bark, which analogy gave reason to believe, and experience has confirmed, to be an excellent remedy in a gangrenous necrosis, and other disorders of the vital motion.

The dangerous and difficultly cured species from the fifth cause are sometimes cured by specifics, diluents, andedulcorants, generally joined to corroboratives. But I will not expatiate on these circumstances, since DONALD MONRO, a pupil of the great HALLER, has wrote a most useful treatise on this subject, in which he has learnedly and clearly pointed out the method how to know and cure most dropries, by precepts and examples. Yet it may be of service, after having premised thus much in general, to add a few directions concerning what is to be avoided, rather than performed, this having been either omitted, or slightly passed over by others.

First, This is the fundamental principle of the cure, that the veins may absorb as much as the arteries depofite; therefore while abforption is obstructed, motion in the arteries is increased hurtfully.

Secondly,

Secondly, When the disease arises from the laxity alone of an external part, I have seen the cure succeed more quickly and safely by applying externally corroborants to the part, than by using them internally. For it is a disease particularly of the cellular membrane, and of the veins, on which external applications act, while the principal action of internals is on the arteries. Thus I have often discussed tumours of the legs by a spirituous bandage, which lax and sedentary women are subject to, especially in the summer, though perfectly well in other respects.

Thirdly, The dropsy, which proceeds from the vessels after a long illness, larger evacuations or inanition, is to be cured only by corroboratives; and indeed they should be administered before the disorder increasing generates fresh morbid causes to be removed by other methods; for where there is a stagnation of humours, there is acrimony, pain, a fever, putridity, and gangrene, all which, unless carefully attended to, a cure is in vain expected; for all these symptoms increase by the use of hot remedies, stimulants

lants, and corroboratives ; that practice affords numerous instances hereof, which, only regarding the laxity of the fibres, always increase the dropfy and the other disorders, which require a different treatment.

Fourthly, Nay, in selecting remedies to evacuate the stagnant waters, we would beware of those which increase putridity, or excite feverish symptoms, for a fever is very prejudicial, whatever some may say ; and the dropfy which is attended with a fever, is almost always desperate ; on the contrary, when no feverish symptoms appear, we are not entirely destitute of hopes. In my opinion, notwithstanding authors of the greatest weight have asserted the utility of a fever, in chronic cases it may have resolved slight incipient obstructions of the circulation, but never those of any long continuance ; it has therefore sometimes deserved commendation, much oftener blame ; for it increases violent obstructions, generates putridity, and wholly pulls down the strength : and if it continues a great while, throws the most robust into a dropfy.

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Fifthly,

Fifthly, Absorption succeeds excellently, if the vessels are emptied, and the fluid to be absorbed has no acromony. We are therefore to do our endeavours that the secretions may succeed the excretions, that the vessels may be strengthened, and the degeneracy of the fluids may be prevented. Hence a spare diet, and especially very slight suppers, are of such consequence in this disease. The aliments to be selected should be neither of a laxative or septic kind; and, joined with acids, oxyfaccpharum has been of service to many, used to preserve the aliments, especially of the animal kind, an easy and far from contemptible remedy. By a plentiful use of it with a spare diet, and proper exercise, I have seen incipient dropsies cured; it is also useful when the disease has been of long continuance, for it retunds the fever and putridity, and promotes the secretions. Where the case is bad I have recourse to mineral acids, nor am I stayed by the opinion of good physicians in every other respect, who discommend the use of acids in chronic disorders, for experience and reason both condemn their assertion. And the weakness which they fear from  
acids,

acids, observation proves, is removed by the use of them, since they attack the causes of weakness; besides they are properly joined to corroboratives, and the spirit of sulphur, with the Peruvian bark, is often a very useful medicine.

The use of cream of tartar, so highly commended by MENCHIN, and BROOKE, and which I have administered with success so many years, is now well understood; as also of the salt of the Lucerne baths, recommended by BENEVENUTO; but are they capable of doing every thing? No. I have seen cream of tartar do great things (a) in the beginning of the disease, provided it did not arise from too lax or acid a temperament; thus, in women, who, about the critical period of life, from the irregularity of their menses, become drop-sical, it removes the causes of the disease, and by its assistance, together with abstinence and regular living, I have often been able to cure a disease that seemed obstinate; nor is this strange, for it arises from a plethora, which a spare diet and acid salt wonderfully remedy.

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(B) When.

(B) When it proceeds from that defect, which the ancients termed an hot intemperies of the liver, I have cured an atrabelarious man (pardon the expression) violently afflicted with a cruel, anxiety, watchfulness, loathing, swelling of the thighs and legs, by prescribing a drachm of cream of tartar in extract of elder, three times a day, and five ounces of clear whey, sweetened with an ounce of honey, to be taken after each dose, and a decoction of grafs-roots for his common drink. His anxiety and loathing gradually went off, the swelling subsided, his sleep returned, and he now enjoys perfect health.

(C) When the secretion of the urine is in small quantity, and the urine high coloured, a sense of lassitude and plenitude, disturbed sleep, and heaviness after eating, inactivity, anxiety, and loathing, soon ensue, which symptoms are well combated by an early use of cream of tartar, which causes a plentiful discharge of urine, attended with a great relief of all the symptoms.

(D) Even in dropsies of very long standing it has sometimes afforded temporary relief; yet in general it fails, when, from length of time,

time, the fibres are rendered entirely inert, and are to be restored to their former tone only by the strongest stimulants; but even then they are usefully joined to other remedies,

Sixthly, Spirits of nitre, or sulphur, restrain the thirst and heat, they also are serviceable for the cough, which, especially of a night, is so hurtfully troublesome to hydropic patients,

Lastly, whoever has examined with attention hydropic patients, and the bodies of persons who had died of this disorder, and has seen almost always a fever, thirst, inflammation, putridity, and alcalescency of the humours, and gangrene, the causes of death, will conceive the use of acids. He will also comprehend the just value of that method which I have mentioned, and which, only regarding the ability of the fibres, recommends for food roast meat, eggs, and generous wines; indeed it is sufficient either in the incipient dropsy which I have mentioned above, from lax fibres, and an acidity of the humours, or in some subjects, after the entire exhaustion of the morbid fluid; but it is of the worst consequence

in most other species, and counteracts two principal intentions, the emptying of the vessels, and restraining the putridity, which last is indeed of great moment; for hydropic patients scarcely ever die without the humours becoming putrid, and so long as it is absent, I have always been able to remove the disease for a time. But when once putridity is present, it so entirely destroys the strength, that the most generous remedies signify but little.

The following observation shews the good effects of cream of tartar, and the mischiefs that proceed from hot medicines. In the month of February in the year 1769, I was consulted for a woman about seventy, very fat, who, for a long time, had made a wrong use of venesection, by repeating it too often, whence, perhaps, an increase of her obesity, her legs and abdomen were very much tumefied, her urine high coloured, and in very small quantity, feverish in the night, and her nights restless and uneasy, her appetite bad, a prodigious defection of strength, her breath short, and her countenance red, as I was informed. For her diet, I directed her

to eat animal flesh but once a day sparingly with oxyfaccharum, the rest of her diet to consist of herbs and fruits; for her drink, weak wine mixed with water to be drank very sparingly, and especially to eat little supper. I advised her also to ride sometimes in a coach, and to take twice in a day a drachm of cream of tartar, drinking after it four ounces of honey and water. Word was soon sent me (for living several leagues off, I never saw the patient) that every thing was mended for the better, and that the disorder abated daily; in the beginning of May she was entirely recovered. From that time I heard no more of her, till after her death, her sister, who was an eye-witness, gave me the following account. She continued well some months, but contemning diet and exercise, towards the end of September she was seized with new anxieties, a neighbouring physician, who attended another sick person in the same town, being consulted in the month of October, prescribed various medicines (the prescriptions of which I saw) bitters, corroboratives, stimulants, purgatives, diuretics, gummy, saline, and I know not what, and directed

her diet to consist almost wholly of dry flesh, which the patient nauseated. Her anxiety increased prodigiously, her whole body swelled, and her breath grew very short. During the last week of her illness a drowsiness came on, which increasing under the use of cantharides and hot medicines, by which it was proposed to be shaken off, at last turned to a lethargy, and the patient died.

In the year 1757, a woman near fifty, about the time of her menses leaving her, had restless nights, loathed all sorts of aliments, had swelled legs, and made very little water, which was high coloured. I prescribed cream of tartar, the swelling entirely subsided, and she was restored to a good state of health. At the expiration of six months the same complaints returned, and I again removed them with the same medicine; and returning again a third time, she, unknown to me, cured herself by the same means. In the winter of the year 1759, being attacked again by this same disorder, she in vain tried cream of tartar, the disorder increased, and her whole body being now swelled, her breathing extremely difficult, and the urinary discharge wholly suppressed, I was again sent for,

for, and to oppose an adequate remedy to a severe distemper, I prescribed a mixture that I commonly make use of, composed of oxymel of squills, terra foliata tartari, and elder flower water, of which I directed her to take a middling dose three times in a day; this medicine purged, but the tumour did not in the least decrease, or the patient receive any relief, but was rather weakened thereby: I then directed her to take the same medicine in a smaller dose, and to repeat it more frequently; it now purged less, and after three days were elapsed, she made such quantities of urine that it amounted in the whole, to above sixty pints in thirty-five hours, her strength being in the mean while preserved by applying bandages to the legs, thighs, and abdomen, and a grateful vinous drink; all the symptoms very quickly vanished; I then added corroboratives to restore the tone of the fibres, injured by distention, and the abode of the water, and she entirely recovered. But being oppressed by severe calamities all the summer and autumn, and her husband dying in November, her fortune being entirely ruined, she was seized in December with frequent cholicky complaints, soon after with a jaundice,

dice, loathing, and universal weakness. I administered mild, grateful, acescent, saponaceous medicines to recruit the strength, prevent the corruption of the bile, resolve concretions, and evacuate the matter when resolved; my success for some days gave reason to expect a favourable event, but her sorrows receiving addition every day, and entirely breaking down her strength, her thighs grew slightly œdematous; she expired without the least agony in the month of February, which kind of death I have seen before, after a long jaundice, in which the blood becoming putrid the strength is wholly impaired, and a syncope or rather a palsy of the heart closes the tragedy. The body would certainly have exhibited stones in the gall-bladder, if it had been opened, but circumstances would not permit this.

I have another dropfical patient under my care at this present time, a woman about forty, formerly healthy, mother of a numerous offspring, whose disease originally proceeded from grief; being convicted of theft, and fearing punishment, was seized with the jaundice, a distemper which so frequently follows excessive sorrow;

sorrow; she was sentenced to imprisonment,  
 but on account of her illness and a suspicion  
 of pregnancy, was suffered to remain at  
 home; and to her jaundice was joined a  
 swelling of her feet, legs, thighs, and abdo-  
 men, which ascribing to pregnancy, she  
 regarded but little: but a fever came on,  
 with restless nights, frequent delirium, thirst,  
 and a suppression of the urinary discharge;  
 she then solicited my assistance. The busi-  
 ness was to calm the fever, and at the same  
 time to extinguish the thirst, and promote  
 the secretions of urine and bile; acescent sapo-  
 naceous medicines, oxymel of squills, and acid  
 drinks soon removed the fever, and restored  
 such a secretion of bile, as would of course  
 cure the jaundice; but the suppression of  
 the urinary discharge continued obstinate,  
 though the urine was not wholly suppressed,  
 and the abdomen prodigiously increased in  
 size; and upon being struck, the extravasat-  
 ed waters were clearly perceived. It was  
 still doubtful, however, whether she was  
 pregnant or not, and, in order to be satisfied,  
 a midwife was sent for to examine her by  
 the touch, who declared she was near her time,  
 which, as I could not believe myself, I left the  
 affair

affair to a surgeon and another midwife, who both affirmed that the uterus was empty; I administered the most powerful remedies that the disorder would admit of, but in vain. The only hopes left consisted in the operation of tapping; twenty-seven pints of water were discharged by the operation, to the great relief of the patient, of the colour and consistence of clear whey, but of a slight putrid smell: I made an experiment with a few ounces of it, I left a part by itself unmixed, a second part I mixed with syrup of violets, a third with spirits of vitriol, a fourth with a fixed alkali, and a fifth with the volatile alkali.

From its mixture with syrup of violets, the second became a fine green, the third grew turgid, the fourth and fifth remained unchanged. Inspecting all the phials, that were covered lightly with papers and carefully set by, on the sixth day, the first smelt so very fetid as to oblige me to throw it away as soon as possible; the second, still of a finer green than at first, had no other smell than what it received from the syrup; the fifth smelt of the volatile alkali; the third into which a small quantity of spirits of vitriol had been put,  
and

and the fourth, which had been mixed with a larger dose of oil of tartar, had a very slight fetid smell. Are we to conclude from hence, that acid salts and alkalies in the living body resist putridity with equal force? No certainly; for the powers of each are far different, which may be experienced by any one, who, as I formerly did, will take cream of tartar every morning for a week, and the following week fixed salt of tartar or wormwood. What I experienced, he would experience also; during the use of the cream of tartar, all was well, except that on the last day, I had some eructations of a copper-like smell. On the third day after I began to take the salt of wormwood, a scruple only of which I took every two hours, I was troubled with fetid eructations; my appetite was lost; I felt a burning heat at the pit of my stomach; I became thirsty, and uneasy; my urine high coloured; my strength enfeebled, and on the sixth day, leaving off so dangerous an experiment, by acid drinks I recovered my health.

But what was the event of the operation? Not such as I could have wished; for on the third day a fresh collection of water was to be per-

perceived in the abdomen by the touch; but since it did not increase in quantity after that time, and the tenth day had now elapsed, and the urinary discharge is now plentiful, I still entertain some hopes.

Seventhly, The greatest physicians in all ages, and SYDENHAM himself, recommend strong purges in this distemper, and I have sometimes known them of service, when the vessels are emptied by the copious diarrhoea, and the extravasated fluid is absorbed; but I have learned from observation, that far more often the tumour is not in the least lessened by strong purging, but the strength is enfeebled; or if the swelling is reduced by this means, it very quickly returns, but the subsidence, in consequence of a copious discharge of urine, is of longer duration; and I just now observed that oxymel of squills was of no service while it purged, but when it acted on the kidneys, it soon conquered the disease. What is the cause of this phenomenon? That wonderful consent of the internal and external skin, for the external exhalation being increased, internal inspiration is increased also in an equal degree; a diarrhoea is stopped by sweating. Whether  
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from the increased internal exhalation ? is not the external inhalation more plentiful ? Every thing seems to prove so ; nor only from the inanition of the vessels, for otherwise the same would happen after every evacuation whatever, but from that consent which proceeds from the likeness of their office, as when from an uterine flux the breasts fall and grow tumid from a suppression of the menstrual discharge ; neither of which happen in consequence of other evacuations.

Those patients especially experience this noxious quality of purgatives, who are of an irritable habit, for in such the power of consent is stronger. Weak and hysteric women after strong purgatives unseasonably given, soon labour under an anasarca, or ascites, the cause of which I should be loth solely to refer to a diminution of external exhalation, or an increase of the inhalent powers, for the loss of the digestive faculties exhibits its particular, though not the least considerable characteristic, and drastic purges weaken the debilitated powers ; whence a defect of concoction and assimilation, a dropfy, the hydra of distempers. The irritated genus nervosum affords also perhaps

haps its own characteristic, whence an injury of the secretions. Those who foolishly endeavour to restore languishing health by purgatives not only fail of their design, but in return for their labour sooner or later bring on an insuperable dropfy.

To heap together a number of instances that are to be met with every where would be useless, I shall only briefly relate one case that had like to have proved a very disagreeable one to me. Upon my return home in the year 1749 I found my mother, a woman of delicate and irritable habit, labouring under a variety of symptoms, which gave just reason to apprehend an approaching dropfy. The first causes of her illness were to be sought for from a long date, to prevent the effects of which some other physicians had long before prescribed frequent purgation, and infusions to be taken several times in a day, with this fate, that each following day added to the calamities of the former. I absolutely declared against both medicines, and prescribed antihysterick pills, which she now takes regularly for some weeks twice in a year, and by the blessing of

of God, she by this means continues as well as her constitution will admit of, all fear of a dropfy being removed upon her difusing purgatives. A friend of her's, about the same age, of nearly the same temperament, and whose state of health was fimilar, who apprehended becoming hydropic from purgatives and diluents, died of the dropfy in 1750, though the disorder at first did not seem so near at hand as that which threatened my mother. Nor is this any wonder; for upon comparing the virtues of purgatives with the causes of the dropfy and symptoms of hydropic patients, they seem a foolish and inadequate remedy. They have no good property, except that of procuring inanition, and have many faults, therefore other remedies should be preferred which evacuate as much, and are free from the same defects.

Indeed in that species of dropfy which proceeds from the obstructions of the viscera, purgatives frequently succeed, well administered, while the obstructions are resolved, for they remove the cause which generated a dropfy; and in this case, rhubarb, mixed with a third or half part of cream of tartar, is what

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I have commonly made use of. I have also, in habits not easily moved, sometimes used Jallap, rubbed with sugar, for some considerable time.

Rhubarb also can do much in those dropsies which arise from atony alone; for it wonderfully strengthens the gastric and intestinal system. It cured, alone, a woman, who foolishly had drank too great a quantity of mineral waters, and thence had fallen into a diarrhœa, and anasarcaous dropsy, with great debility. A scruple of rhubarb, taken every morning and night for fifteen days, removed her disorder; the remaining ataxy I entirely cured by filings of steel mixed with a fourth part of cinnamon, and she enjoys a good state of health.

Eighthly, But in other cases, I repeat it again, it is bad trusting to purgatives, either with intention to prevent, or cure dropsies; for this disorder frequently proceeds from the digestion being impaired, and the diminution of the cutaneous expiration; and repeated purgatives, increase both complaints.

To prevent an incipient dropsy, first, Its species should be known.

Secondly,

Secondly, we should enquire into its causes.

Thirdly, Each should be combated by its peculiar remedies ; for as no medicine is yet discovered that will cure all dropfies (notwithstanding physicians boast of their secrets which they entertain the most sanguine hopes of) so also one is wanting, capable of preventing the increase of all incipient dropfies.

I have already described many signs of a future dropfy, to which, if a frequently recurring dryness of the fauces with or without thirst, a dryness of the skin from diminished perspiration, unusual startings in sleep, and especially an accurate examination of all the causes capable of exciting the dropfy be added, the disease may be always known in its infancy, and often be prevented.

I shall not treat of every remedy which the cause, when known, points out. There are three always useful, never to be omitted, exercise on foot, on horseback, and in a coach ? a very spare diet, and the use of those things which are capable of restoring the urinary discharge and cutaneous exspiration. A noble  
M 2 lady,

lady very fat, about fifty years of age, whose menses had left her some months, and for some years had laboured under some symptoms, forerunners of the dropfy, by somebody's persuasion drank several mineral waters which our valleys abound with. The last dose, which she took in 1759, very much debilitated the digestive powers; and she had an ill state of health during the following winter; but took no medicines, till prevailed on by the urgent danger, in the month of June 1760, she desired my assistance. She complained of a pain, as if her breast was tightly compressed by an iron girdle, a common complaint among dropfical persons, a difficulty of breathing, and violent anxieties awakened her several times in a night, and obliged her to rise from bed, in order to breathe the fresh air of the open window; she had a continual violent husky cough, her strength decayed, her feet swelled, and frequently felt a sense of heat which no sweating relieved, and made less water than usual. I prescribed spare diet, and a strict abstinence from all animal food at night, and a mixture of equal parts of oxymel of squills

squills and elder flower water, two spoonfuls to be taken three times in a day, and to walk every day.

Things soon bore a better aspect; the third night she was able to lie quietly in bed, in the morning a breathing sweat came on which moistened the skin hitherto dry, the tumour of the legs gradually subsided, the stricture of her breast was taken off, her strength grew better, and at the expiration of three weeks an obstinate cough only remained, which yet sensibly decreased by the use of cream of tartar. In the beginning of September she was well, except that her appetite was rather bad, the common consequence of taking squills. She was desirous of taking a few doses of physic, which I refused; but at last through too much complaints I imprudently consented that she should take for a few days a glass of a decoction which one of her acquaintance recommended highly, the basis of which, as I was told, was the bitter plants with the addition of some gentle laxative, and its virtues to strengthen the stomach, and to procure three or four stools every day. The first three days it succeeded

well enough, but the fourth day such a diarrhoea came on that she had above forty griping stools ; it continued some days, though not so violent ; a lientery, loss of strength, shortness of breath, uneasy sleep, and a cough succeeded ; yet I restored her former health by corroboratives : she passed a good winter ; but towards the end of April she was again seized with her former disorder, which again gave way to vinegar of squills. Her menses never returned, but she bled at the nose several times. And there are the greatest hopes of her enjoying her former good state of health. She as certainly would have been dead and buried long ago, if I had prescribed an heating dry diet, purgatives, and acrid medicines.

Squills are really a very powerful remedy in many kinds of dropsies, but they have always succeeded best with me when given in such a dose as not to purge, but only promote the urinary discharge, and then it does wonders ; but cannot do every thing ; nor is it free from its particular faults ; for (*A*) it certainly impairs the digestive powers, which, indeed Peruvian bark afterwards excellently restores ;

stores (B) ; it is an acrid and penetrating medicine, it frequently excites violent pains all over the body, nay (C) persons of an irritable habit it often throws into convulsions ; it is true camphor joined to this medicine, as HALLER first observed, prevents both these inconveniencies. (D) It dissolves the crasis of the blood, as the fæces and urine lightly tinged with blood testify ; and, truly, where the humours are already in a dissolved state, it should be cautiously administered. I have frequently evacuated the water by squills, and afterwards restored the crasis of the blood and debilitated solids by the use of the Peruvian bark or other corroborants ; sometimes I have administered squills and bark both at the same time.

I cured a woman last Autumn, who, though not old, had been troubled with a shortness of breath near twenty years, which now increased, and being broke down with trouble, was become feeble, had a perpetual nausea, violent head-ach in the night which prevented her having the least sleep, and swelled legs ; I prescribed two drachms of oxymel of squills every morning, and the same quantity

tity of Peruvian bark in the afternoon ; it was wonderful how the symptoms disappeared gradually, and her appetite, rest, and strength returned. (e) It is not free from danger where there is an old schirrus and a fever, for then ulceration is easily produced : I have known it to do harm in a woman who had both a cancer and a dropfy ; for it rendered the cancer more painful, and the discharge more profuse, and tinged with blood ; yet the dropfy abated, and the bark repaired the injury which the cancer had occasioned. But at length, entirely worn out with two such dreadful enemies, she did not long survive their injuries. I have often seen other cases where all hopes of a perfect cure had long been at an end, and death soon expected, where the bark and squills in conjunction have conquered the violence of the disease and prolonged life. There are many preparations of squills, but the squill itself is to be preferred to all, if we regard only its strength. Two or three grains of powder of squills rubbed down with sugar, very quickly remove those dreadful anxieties in the dropfy of the breast ; and I have seen patients who  
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for several nights have not got the least sleep from their shortness of breath, in about two hours after taking squills, sleep quietly enough, and by a prudent continuation of the medicine soon recover. But I have already observed, squills by itself is an acrid remedy, and to many intolerable; hence various ways of administering it. Many use torrefaction, which destroys its virulence, without lessening its efficacy; but it is certain that the medicine has two principles? For my own part I should think it wholly virulent, and like other poisons, acts by its deleterious quality, which is not to be corrected, without at the same time lessening its virtue; nor does any thing else seem to me to be obtained from torrefaction, except a diminution of its strength; a slight torrefaction in no respect lessens its strength and virulent effects, a greater degree of torrefaction takes away both its virulence and efficacy; the dose of torrefied squills must however be larger, and then it even deserves commendation, RAST the younger, a Dutch physician, mentions that he lately cured a boy labouring under a severe anasarca by

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ten grains of roasted squills divided into two doses, which occasioned a profuse discharge of urine, which had a very slight bloody sediment. Dr. HOME mentions instances of the same kind, who with the like dose of torrefied squills mixed with an equal quantity of ginger, also has cured many anasarcas. This is also another and antient manner of preparing them, by correcting their power that is disagreeable to the stomach with aromatics; hence the addition of spirituous cinnamon water to an infusion of squills, a mixture much approved of in England; hence also the junction of squills with a ptisan prepared of juniper-berries, commended by the French, which I have found useful myself. Vinegar frequently excites intolerable anxieties. Wine is the most powerful of its menstrua, but I have seen many patients who could not accustom themselves to its use, for it excited violent and enormous vomitings; but oxymel they could easily take, which given in a proper dose, and mixed with a nitrous or neutral salt, is inferior to no other preparation, as a variety of observations sufficiently confirm.

Ninthly,

Ninthly, The remedies of the cresses kind, which many and not undeservedly set great value on, are not always to be administered, for they wholly dissolve the blood and render it putrid, whatever physicians may say to the contrary who prescribe those plants with a design to refrigerate, every year with craw-fish soup and animal broth. They succeed excellently well in a cold viscid diathesis, mixed with bitter corroboratives; they have also sometimes proved of service in that species of dropsy which attacks wine drinkers after long trouble: but they are hurtful whenever a fever, heat, thirst, a dissolved state of the blood, putridity are present, and the skin is full of livid spots. I was eye-witness of a most terrible mistake committed by a physician, who, deceived by these spots which he thought scorbutic, prescribed buck-bean, water-cresses, and spirits of scurvy-grass, in consequence of which the disease became more violent, and all the symptoms were highly aggravated. In these cases, for those who love indigenous remedies, the dwarf elder is no ignoble medicine, the juice of the berries inspissated has done service to many  
by

by promoting the excretions without heating or acrimony, but is too gentle a remedy when the patient is very bad.

The circumstances which proscribe plants of the cresses kind, exclude steel also; namely, heat, fever, and alcalescency; but it bears the palm from all other remedies, when the disorder proceeds from the laxity of the fibres alone, and the humours are not yet become putrid; young women of a lax habit, and addicted to a sedentary way of life, are subject to this species of dropy; it is cured by the use of filings of steel, with the addition of some aromatic powder. I cured a great while ago a young woman twenty years of age of this distemper by prescribing half a drachm of prepared steel, and five grains of cinnamon, to be taken six times in a day. All the secretions were increased, and especially the cutaneous discharge, and the disease, a circumstance I have seldom observed, went off mostly by sweating.

Tenthly, Many remedies are cried up, the virtues of which may readily be conceived, therefore shall not dwell on them; but only examine two, frictions of the abdomen with oil,

oil, and the evacuation of the serum by the skin.

To use frictions of oil to patients in an ascites is not a new practice in medicine, but had grown into disuse, and was not long ago revived by DR. OLIVER of Bath; it succeeded to his wishes, and he thereby cured many cases judged incurable. The abdomen is rubbed, for an hour together, morning and night, with the hand moistened with oil of olives, and after some days, the patient having a profuse urinary discharge, the swelling subsides. The remedy consists of two parts, the friction and unction. The power of abdominal friction is this, it resolves what is concreted or viscid, assists motion, especially in the veins, and thus renders the fluids more fit for absorption, and increases absorption; but experimental physic gives ocular demonstration that the humours extravasated in the abdomen, when absorbed, are evacuated by the kidneys; I have known frictions often determine fluids rather towards the skin, than the kidneys; but the genius of the distemper prevents this, which, as I have observed, obstructs insensible perspiration

tion and sweating; hence in many hydropic patients, that dry, squalid, hard skin, nay, I have seen it callous in some places. But when frictions are made use of, where the extravasated liquid already stagnates in the cavities of the abdomen, the utmost care should be taken not to rub it too hard, for too rough handling would be of the worst consequence by injuring the viscera, now soft, and inclinable to putrefaction, nor are they too rashly to be blamed who leave off frictions, when the fluid is extravasated.

Observations, which demonstrate external exhalation injured, prove that the corresponding inhalation is at the same time increased; and by experiments it is demonstrated, that this absorption is so great in some cases, as almost to exceed belief. Now we know the action of oil, it obstructs absorption; and thus removes one of the principal causes of the disorder; perhaps it relaxes the kidneys constricted from their neighbouring situation, by relaxing the structure of the abdomen, and by supplying the nerves. The diuretic effect which emollient remedies produce

duce in some cases where acrid diuretics have been long tried in vain, and sometimes proved prejudicial, induces me to think so. Or does it at length, although it first obstructs all expiration, afterwards restore it, the vice of the skin being removed? Or would bathing the whole body with oil prove more serviceable? So the antients thought, who used frictions of oil to the whole body, the abdomen excepted. *But it also is necessary to use violent friction with oil, and some heating medicines three or four times a day. But in this friction, the belly is to be omitted.* What is to be thought of the rest of the advice? *But mustard is to be frequently applied to, till it corrodes the skin; and the belly is to be ulcerated in several places by the actual cautery, and the ulcers are to be kept open a considerable time.* These respect the evacuation of the serous fluid, of which more by and by: I should truly believe that the advice of CELSUS, concerning universal friction with oil, may be of service in the dropsy sometimes, but it would be far more useful, if I am not mistaken, in the diabetes, internal corroboratives, and particularly rhubarb, being administered

administered at the same time. For it is a disease that proceeds from increased cutaneous inhalation, which MELZ and KRATZENSTEIN, as well as many other observations, demonstrate to be enormous. Whether from a similar effect, is not the external use of cantharides useful in that distemper? They increase exhalation, and thus make a diversion from the kidneys; they diminish inhalation, thence its pabulum is taken from the disease; they increase the acrimony and difficulty of the urinary discharge; but the urine is too sweet, and voided too easily. Or does the disease proceed from a perversion of the functions of the skin? These are restored by cantharides. I submit these conjectures to the judgment of more able physicians, and would recommend practitioners, when this disease occurs, to try the experiment with caution. The observation of LINING demonstrates, that when the urinary discharge is increased, cutaneous absorption is increased also in proportion.

Why are oily frictions useful in some cutaneous disorders, since most of those disorders arise from a suppressed exhalation, and frequently

frequently are the consequence of pinguinous applications to the skin, because they sometimes proceed from too great a rigidity of the skin, or from a stricture arising from something acrid deposited there, both which disorders are cured by an emollient liniment. Whence are those diseases frequently so obstinate? From the difficult passage of the blood in the skin, or from the difficult passage of remedies for the same reason? Or, perhaps, from some disorder in the humour which moistens the rete mucosum, and infects by way of ferment whatever comes near it? Many circumstances induce me to think so; for the lentor of the blood, and the slow passage of the remedies seem adequate causes of such great obstinacy; but the vicious quality of the rete mucosum seems an adequate cause, for it is, as it were, a part placed beyond the laws of the circulation, and spots which are burnt in, with difficulty got out. Besides there sometimes exists a virus so intricately mixed with the blood, that it can scarcely be subdued. The herpes and itch, for instance, are contracted by contagion, and gradually become worse, until

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they

they are conquered by the force of medicines. But I have known patients who, for ten, fifteen, or twenty years, have never been free from an herpes, either in one part or another, even a single day. What is the cause ?

I have tried oily frictions three times, but in vain; I also now make use of them, and I hope shall meet with better success before I direct the operation of the paracentesis a second time for the woman whose case has been related heretofore.

Nature has pointed out the evacuation of the serous fluid through the cutaneous pores, particularly of the legs, for the skin, when distended to the utmost with the fluid, bursts, and frequently, from invisible chinks, nay, perhaps, the pores remaining whole, so great a quantity of fluid is discharged, that the swelling of the whole body subsides, whether it flows from the cellular substance, or from the exhaling vessels themselves. Art imitates nature, and by scarifying the cellular membrane, a passage is made for the morbid fluid to discharge itself. This method, which is extremely ancient, has never fell into disuse, and the celebrated ANTHONY CECCHI,

Cocchi, as I at this instant read, tried it on himself; four pints of serous fluid were discharged. MANETTI relates the event, *to the great relief of his kinsman; but this fleeting good lasted no longer than the following night.* The ancients; witness CELSUS, whom I have quoted, and to whom innumerable others may be added, eroded the skin by fire and acrid applications, and even by laying squills upon the part. Some of the moderns apply cantharides; but all acrid applications should be avoided; for the humour that is discharged is acrid, and capable of irritating, injuring, and enflaming the skin. If the remedy also is acrid, there is reason to apprehend a gangrene, which is easily produced when the circulation grows sluggish, and the juices are impoverished and acrimonious; therefore scarifications are to be preferred, though they are not entirely free from danger in cachochymic habits. There is another remedy extolled by the common people, who are afraid of scarifications, namely, briony root, which they cut into little square pieces, and after bruising and heating them, apply them to the legs; by its acrid virus, though milder

than cantharides, it gently stimulates the cutaneous vessels, and hence the whole leg is moistened with a copious discharge. The first application generally produces no discharge; but every twelve hours fresh pieces of briony root are applied, and a moisture seldom fails of appearing after the third application; this method is continued till the flux seems durable. Sometimes an astonishing, sometimes a very small quantity of ferous fluid is evacuated by these means. What the success? I have seen some who, under a large discharge, have remained equally anxious and swelled, while others on the contrary have had the waters entirely discharged, and the swelling has subsided. In the winter of the year 1756, a woman sixty years of age, who was vastly swelled all over, received no relief from the application of briony, for her legs discharged little, and the discharge did not in the least relieve her.

About the same time a man of seventy, who had formerly been cured by taking squills, and had now tried this medicine in vain, was relieved of a difficulty of breathing,

ing, anxiety, and swelling, by the application of briony roots, which excited so profuse a discharge, that large pans were obliged to be placed under his legs that were extended over the sides of the bed in a depending posture. After three days his skin became so lax and flaccid, that I never saw the like, except in a little boy who died very quickly of a catarrh from living in too warm a sweating room; I could take hold of it like a thick cloth, roll, or make into folds as I pleased. His weakness was also so great, that a fatal syncope was continually to be apprehended, and his legs were very troublesome. However, by the use of nourishing aliment and corroboratives, his strength was recruited, and his legs were cured, but at length, after some months, he died. The swelling vanished also entirely in a younger woman by this method, and corroboratives restored her to a good state of health. The assistance which nature received in these cases, it afforded itself in a woman of fifty-three years of age, by conquering a difficulty of breathing and swelled legs, by profuse night sweats of the legs; and I cured her

perfectly by restoring her strength by the use of steel and the Peruvian bark. That extraordinary case of count Osterman, a noble Russian, has some reference thereto, who was cured of a very bad dropsy by a spontaneous most profuse sweating of his feet, which flowing continually afterwards preserved him free from any return of the dropsy for twenty years; he was obliged to wear shoes made in such a manner as to allow a passage for the fluid into a kind of receptacle formed on purpose, and by these means he could wear the same shoes several hours without inconvenience.

Nor is the method of N. LIEBERKHUN, a person second to none in understanding, learning, or an happy practice, to be forgot, who knowing the power of the cellular consent, forced a fluid extravasated in the pulmonary cellular substance to descend to the legs by means of pediluvia, and then administered corroboratives.

I have no precepts to lay down concerning the operation of tapping, for those of CELSUS are golden rules. Some are afraid of using this operation early, others are averse to performing

forming it when deferred long ; I make use of it myself with safety in both cases ; for when performed early, it frequently is of great service ; and though deferred till late, it is free from danger. In performing this operation, the bandage formerly used by CÆLIUS AURELIANUS, revived by LITTRY, and which MEAD thought his own invention, is never to be omitted. The operation when deferred long, does not cure, but considerably eases the pain occasioned by the tension, of the abdomen, and removes for a little while those cruel anxieties which the patients labour under, and affords time and opportunity for administering proper medicines.

But to conclude : This little treatise is not filled with extraordinary, uncommon, or, wonderful observations, for such are of no use, but contains only diseases faithfully related, which though seen every day, have hitherto not been fully considered ; for as TULLY excellently observes, *we do not seek the reasons of those things which we have always before our eyes.*

# PRACTICAL OBSERVATIONS ON THE NERVOUS CHOLIC.

**T**HE following observations, made by public order, and published some time since in the journal of BERN, the receptacle of all the literature of Italy and Switzerland, I hope will not prove disagreeable to those who have not read that publication. For the disputes depending concerning nervous cholics would be far sooner settled, if those physicians, in whose practice they occur, would not disdain to give their particular observations. Mine are trifling, but such as occurred, and I hope will not prove entirely useless. I shall not presume to decide the controversy, but should myself be of opinion, that some wines, poisonous substances, and the scurvy, are the three causes which excite cholics, followed by a paralytic disorder; and that no other causes are to be allowed,

allowed. For I every day cure most violent cholics from even other causes, yet have never seen a consequent palsy, and, indeed, many other of the most eminent physicians in Europe have never seen it neither; and I suspect whenever a palsy does happen, in consequence of a preceding cholic, that it is owing to one of the above-mentioned causes. However I propose this as a matter of doubt to be discussed by others, for I am not a person fond of dissenting from the testimony of authors of weight.

*Observation the first.*

A woman about thirty years of age, of a thin habit, who had been pregnant three times, and a widow above two years, with tears solicited me in the month of September 1753, either to give her relief, or to procure her an easy death; seven days had elapsed since she had been at stool, and about ten days since she first felt a troublesome sensation from the pit of her stomach down to her navel, which increasing every day, had arrived to such a pitch, that for two days past she had never ceased wishing for death; and from the violence

lence of the disease had been more than once delirious. The preceding night she had suffered some slight convulsive attacks, and from that time had found a difficulty in moving her finger. It was impossible to mistake the disease now, though it had been over-looked before; the business was to enquire its cause. Her surgeon informed me what the patient had suffered above a year, and said that he had prescribed, with intention to cure a phtisis, thirty drops of tincture antiphtisica to be taken twice in a day in an infusion of red roses; which prescription she had faithfully taken for a whole month, nor, except for five days, had abstained from taking the poison. I understood that her cough had been a symptom of the hysterical affection, nor was the origin of the present disorder now in the least doubtful; the surgeon had endeavoured to cure it as foolishly as he had brought it on; for thinking it a flatulent disorder, he had administered scarcely any thing but warm aromatics, aniseeds, fennel, clary, theriaca, and spirituous fomentations. The patient was feverish, her skin dry and wrinkled, her tongue parched;

ed ; had made hardly a cup full of water for thirty hours ; had passed seven nights without the least sleep ; her abdomen was contracted, and so tense, that she could not bear the gentlest touch, and had such anxiety, that I never saw a greater degree. I advised a warm bath of simple water to be used as soon as possible, and in the interim a clyster to be injected, composed of oil of olives and syrup of marshmallows, each a quarter of a pint, and that she should take inwardly the same dose of that syrup mixed with half a pint of water, till the following whey could be prepared :

R Seri lactis ℥j.

Solve mannæ ʒj. colaturæ,

Adde Syr. altheæ ʒj.

Syr. é mecon.

Aq. raphan C' aa ʒj.

Sal nitri gr. xij. M.

Capiat ʒij. omni horæ quadrant. calefact.

I ordered the first dose to be taken in the bath, in which she continued a whole hour on account of the small relief which she  
thought

thought she received thereby. As soon as she came out of the bath, I directed the whole abdomen, from the pit of the stomach to the pubes, to be covered with a pultice made of bread, elder flowers, and chamomile flowers boiled in milk. The relief she received from the warm bath was small, her pains still continued very violent, and no evacuations succeeded its use, though I had hopes that the bath would have procured a discharge of urine; thence therefore, after the expiration of four hours (sooner I ought to have done it) I ordered another clyster, which was retained likewise; and a third also was injected of the same kind, with the like success; at length, expecting no remission of the pain so long as stools were wanting, it came into my head to try what a vapour clyster would do; and by means of a clyster syringe, hog's bladder, and a funnel, a rude but useful contrivance, I conveyed the smoke of a decoction of mallows into the intestines, and it succeeded according to my wishes; for within six minutes the patient perceived an unusual motion in her abdomen; in about ten minutes time the instrument was removed and her pains seemed less;

less; in about half an hour after she had a stool that consisted of very hard scyballs; being the ninth hour from my first attempt, a fourth clyster of a decoction of mallows and syrup of marshmallows was injected, which procured another stool; and now her pains were more abated, so that the patient would have thought herself happy, if the palsy of her fingers had not afforded a sad prognostic. About ten in the evening she had a copious liquid and extremely fetid stool, and during the night four others, having now taken nine pints of whey, and consequently near fourteen ounces of manna, which I would have remarked by those who, treating desperate disease with gentle means, are ignorant how to solve a hard obstinate disease with a suitable wedge.

Returning in the morning (the eleventh day of the disease) I heard that her pains had been very moderate, therefore omitting the syrups of marshmallows and diacodion, I ordered to each pint of whey, half an ounce of manna, and an ounce of juice of dandelion. During the day she had two copious fetid burning stools; and had a plentiful discharge of turbid

bid urine, which deposited a great deal of yellow sediment; she was very weak in the night and got no sleep, but had one stool.

The next day (being the twelfth of her illness) three drachms of the juice of water-creffes were added to each pint of whey prepared as the day before; the cataplasim was enriched with a proportion of rue and saffron; no pain; a clyster of catholicon administered about five in the evening procured a farther discharge of feces; about nine she fell a sleep, and continued sleeping for two hours.

On the thirteenth, the juice of water-creffes was increased to the quantity of an ounce to each pint of whey, but she drank the whey only ever half hour. Her whole nourishment had hither to consisted only of chicken broth, I now ordered her to eat vegetables and bread; in the evening a clyster operated powerfully; she slept five hours, and in the morning found herself well, only unable to move her fingers. The fourteenth and fifteenth days continued the same; on the sixteenth a little *Hiera picra* was added at night to the clyster, which procured some copious stools;

stools ; and in an hour after she took the following bolus,

R Camphoræ gr. xij.

Conserv. Anthos ʒij. M.

and drank after it five ounces of a very strong decoction of burdock root.

The seventeenth, the whey clyster and bolus were repeated.

The eighteenth, leaving off the whey, she took at seven in the morning and at five in the afternoon, a draught of cock-broth, with which were mixed the juice of dandelion, fumitory, and water-creffes ; in the evening her bolus ; she had a very good night ; in the morning she had a breating sweat, and could indeed move her fingers, but had no strength in them. She continued the same remedies till the thirtieth day, and then, being entirely recovered, and free from all hysterical complaints, she bid adieu to physic.

*Observation the second.*

In the month of May 1754, a woman, always of a delicate constitution, had laboured under a cough and a copious expectoration  
for

for some months, which, though called purulent by the person who then attended her, I found to be only mucous from a vitiated lymph in the lungs, which, though relaxed, were found; besides she suckled a child, and thus her strength being impaired more and more every day from a two-fold cause, she grew consumptive, to prevent which, an apothecary persuaded her to take five grains of sugar of lead in conserve of roses three times in a day, Her expectoration grew less, and by the fifth day was wholly suppressed; but on the tenth, the first day of the fresh disease, she began to complain of a slight uneasiness, and a troublesome sensation of weight in her abdomen; she was now constive, though she usually had a stool every day before; her anxiety and pains increased every day; on the sixth day they were extremely violent, and her abdomen felt as if tightly bound with an iron girdle.

Seventh and eighth days she passed in inconceivable agonies, clysters and purgatives availing not in the least. Being sent for on the ninth day in the morning, I found her in great anxiety, her breathing very difficult, excessively

excessively weak, in most violent pain, and for some hours past unable to move her arms without difficulty, Her tongue and throat dry almost to rigidity; she had endeavoured to quench her thirst and ease her pain by plentiful draughts of chamomile and aniseed tea, which she had frequently rejected by vomit. She had also frequently taken the-riaca Androm. dissolved in oil of walnuts, and various other things of the same kind. Her pulse was hard, quick, weak, and unequal. Her excessive weakness and laxity, the cause of the preceding disease, and an œdematous swelling of her legs, forbade warm bathing; I ordered a clyster to be immediately thrown up, composed of four ounces of linseed oil, an ounce of syrup of diacodion, and two ounces of syrup of marshmallows, and a decoction of chamomile flowers. From her neck to the pubes, was applied an emollient cataplasm. I directed her to sip a warm decoction of mallows, to each pint whereof an ounce and an half of manna, an ounce of honey, and a drachm of diacodion were added in the same manner as my former patient took the medicated whey. To procure a return of expectora-

tion that was suppressed, I advised to inspire through her mouth and nostrils, with her head covered, the emollient vapour of the same decoction. A clyster was injected every two hours ; after the third, she felt some small relief ; and in about a quarter of an hour ; having now taken about eight ounces of manna, and as much honey, her pains increasing so violently as to produce fainting, she had a stool of almost a stony consistence, that swam in oil, and voided great plenty of fetid high-coloured urine. In the night, she had six stools more.

The tenth day, her pains were almost removed, her mouth and throat moistened with a fine dew, but her hands continued incapable of motion, The patient, though extremely weak, continued the same decoction for two days, to which, instead of syrup of diacodion, syrup of the five opening roots was added, which occasioned more stools ; her expectoration returned, but little or no cough.

On the thirteenth, a plaister of galbanum, with saffron, was applied all over the abdomen and the whole length of the spine ; and I directed a bolus to be taken three times in a day,

day, composed of camphor, benjamin, elecampane, assafoetida, and a small quantity of balsam of Peru, rubbed with loaf sugar; and after each bolus, a draught of a ptisan prepared of burdock roots, sassafras shavings, rosemary flowers; also the inferior parts of the body to be rubbed well with succinated cloths, and a generous diet to be observed.

By persisting in this method for six days, on the twentieth day of the disease the patient could move her left hand. By the thirtieth, she was perfectly well. But as I have since heard, carelessly getting wetted by a shower of rain, she caught cold, was attacked with a fresh cough, and in the beginning of December died consumptive. As I was informed, the child was weaned the third day after she began taking the sugar of lead.

### *Observation the third*

A young fellow, twenty-three years of age, labouring under a virulent gonorrhœa, in the month of September 1756, by the advice of a barber (the cobbler here went beyond his last) took twelve grains of saccharum Saturni

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every

every morning, but at the expiration of fifteen days (having now taken in all three drachms) his gonorrhœa being almost removed, he began to complain of great thirst, anxiety, weakness, uneasiness, and loathing of food; on the eighteenth he felt a pain in his stomach. By the twenty-third the disorder had so much increased, as to seem to threaten death. By repeated clysters, purgatives, and oily medicines, as he informed me, on the twenty-eighth he had some stools, and his pains were a little abated, but at the same time his hands and feet became so paralytic that he could move neither. Being called into consultation on the thirty-first, I kept his body (which had not yet been sufficiently loosened) open for two days by a diluent ptisan, composed of manna, cassia, and a decoction of grasse-roots, which procured a plentiful discharge of fæces; then I directed a cataplasm friendly to the nerves to be applied all over the abdomen, and a plaster of the same kind the whole length of the spine, and frictions to be used to the whole body.

From the thirty-first day to the thirty-eighth, he drank every hour three ounces of  
a decoction

a decoction of eringo-roots, guaiacum, and sarsaparilla sweetened with honey.

Thirty-ninth day, having premised two clysters, which operated copiously, I prescribed bolusses of Virginia snake-root, camphor, and assafoetida, with a small quantity of sulph. aurat. Antimonii, to be taken every four hours with a glass-full of the ptisan.

Fortieth-day, as he had not yet got any sleep, I added half a grain of opium to his night bolus, which procured him a good night's rest.

Forty-first day, he took a gill of Malaga wine in the forenoon, and the same quantity in the evening, which wonderfully recruited his strength.

Forty-second day, he could move his right leg.

By the fiftieth day, by the use of the same remedies, the opium excepted, which he took only once, he recovered the use of his hands and feet. His strength was wholly recruited by an eupeptic diet, generous wines, and riding on horse-back ; nor did his gonorrhœa ever return.

F I N I S.